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Acknowledgements

AAA, RMIT and Victoria University wish to thank all the Alliance Managers and Operations Managers who have so generously contributed to this study, both in Australia and New Zealand.

AAA wish to thank the project working group participants: Mr. Andrew Stevenson – Committee chair, Mr. Tim O’Hearn, Mr. Darren Nabbs, Mr. Robert De Wet, Dr. Leigh Keith and Mr. John Lane-Smith for their time, thoughts and expertise, and in particular Mr. Lane Smith, for his contribution of a large pool of profiling information from the IWAM tool, adding valuable insights into this project study.

AAA also wish to acknowledge the very significant investment of effort, innovation and intellectual property from Professor Derek Walker of RMIT University, Melbourne and from Dr. Beverley Lloyd-Walker from Victoria University, Melbourne.

This study was commissioned by AAA members as their investment in support of the on-going development of the industry and the long term viability of value chain collaboration in public or private infrastructure delivery and services.

Glossary

AM      Alliance Managers
PA      Project Alliance
PAA    Project Alliance Agreement
PO      Project Owner
POR    Project Owner Representative
CMM    Capability Maturity Model
PM      Project Manager
UM      Unit Manager
TOC    Target Out-turn Cost
AOC    Actual Out-turn Cost
TCE    Target Cost Estimate
ALT    Alliance Leadership Team
AMT    Alliance Management Team
NOP    Non-owner Participant
HRM    Human Resources Management
BAU    Business as Usual
Foreword

Project steering committee

Over 10 years ago a new form of contract called Alliancing was used for the first time in Australia for the delivery of major infrastructure projects. The unique characteristics of alliances are that three parties: Client, Contractor and Designer execute the one contract. This type of engagement requires the leader and management team to understand and represent all parties interests, a far more complex proposition than for traditional forms of contract.

Over the years, alliances and related collaborative delivery methods were found to be well suited to complex projects and programs of work where many parties and complicated operational requirements were part of the equation. A trend developed where a very small pool of candidates were identified as alliance managers, a specialised role requiring a quality of leadership far beyond that normally expected of a traditional project manager. It is feared that the scarcity of skilled alliance managers could eventually lead to constraints in the ability of industry to deliver value to clients on some projects.

The Alliancing Association of Australasia (AAA) first contacted me over two years ago to discuss an opportunity to research the role of alliance managers and to create guidelines to assist in developing and increasing the pool of talent available to lead alliances and act in alliance management teams. The initial task was to identify the skill set required of alliance managers.

This paper is the result of extensive research into the key profile characteristics of alliance managers. With the assistance of RMIT, Victoria University and their world-renowned researchers in this field we have laid the first stone of a tool to develop capable individuals into competent alliance professionals. Many people were involved in the study across many industry sectors and the results highlight the value not only of individual contribution but also the collaboration across industry which made this project possible.

The aim of this paper is to increase the pool of talent available to an industry delivering project and program alliances across all sectors, including construction, health and education. Creating more skilled managers to lead major projects will not only create additional value to project owners, but will benefit end users and the community.

We hope this work is of use to members of the AAA and all industry participants through the development and retention of critical resources. This research and tool are just the start of equipping more people within Australasia to deliver the needs of an increasingly complex environment.

Andrew Stevenson
Chair of the project steering committee
May 2011
Foreword

Researchers

A series of influential UK reports as well as the ‘no dispute’ report in Australia, present cogent arguments for greater collaboration, trust, and a commitment to greater focus on win-win project outcomes. Recognition of this need has been building for decades and the underlying problems of the goal are well known, as are the solutions.

The National Museum of Australia presented a landmark example of a successful alliance in the building construction industry and we are fortunate to have a good longitudinal research record that tracked that project so we have a better idea of why it was successful.

Much academic research work on partnering in many countries has been undertaken to identify what it is and how or where/when it works as well as its foibles—most notably a tendency towards exploitation of one party by another under the guise of collaboration and risk sharing. Recent academic work has focused on alliancing with several doctoral theses and a number of scholarly papers that are discussed in the literature review of this report.

Defining key features of alliancing are: a relationship compact, a commercial risk-reward compact and a governance framework that clarifies expectations of roles, responsibilities, risks and rewards as well as behaviours. The current thrust of the emerging scholarly literature relates to trust, commitment and innovation in alliances. It also centres on organisational and individual competencies and, through the creation of a collegial culture, dynamic capabilities for rapid and evolutionary learning across teams and between the project owner and non-owner participants is developed. The whole question of governance; how action and intent are governed through processes, protocols, organisational structures and regulatory arrangements is also central to alliancing.

Current scholarly interest on alliancing contrasts starkly with the issues and concerns that preoccupied us before the late 1980s moving into the 1990s. The literature has advanced from identifying what alliancing is (or should be) to describing the new knowledge, skills, attributes and experience required of alliance participant team members and how a respectful cross-disciplinary and cross-team collegial and collaboration learning organisational culture is developed. The main drivers of this change in focus are due to the inherent complexity in many infrastructure projects that deliver a product, service and intangible benefit mix. The desire and need to create broader shared value presents a powerful motive that drives us onwards along this relatively new project procurement path. This report will contribute to that effort and, we hope, form a basis for further development by others as this area evolves.

Professor Derek H.T. Walker, RMIT University, Melbourne
Dr Beverley Lloyd-Walker, Victoria University, Melbourne
May 2011
Executive Summary

The stated purpose and aim of forming project alliances is to achieve best value for a range of stakeholders involved in the delivery and use of project outcomes. The argument made for justifying the project alliancing procurement form is that if the best team available, that is energised to be committed for best-for-project outcomes, is assembled and adequately resourced by a project owner then it is likely to deliver best value outcomes for not only the project owner but its ultimate end-users, those involved in delivering the project and society in general. It is an ambitious aspiration and it requires high level alliance managers (AMs) with particular skills, attributes and experience. There is an underlying assumption that these required qualities of AMs are in some way over and above those expected of project managers and that ‘people’ or ‘relational’ skills are key to this.

This project was established with the aim of identifying attributes of professional excellence in alliance management and of building a model of competencies and skills required of excellent alliance managers. One practical outcome of this exercise, based on the developed model, was to identify the best way that excellent alliance managers can be recruited, retained and developed. A second practical outcome was to develop a capability maturity model (CMM) that can be used to assess where an AM may fit and what could be done to enhance that AM’s capability maturity. The third practical outcome was to develop ideas about how an AM’s capability can be enhanced. A fourth outcome is to develop a brief for the development of salient tools, techniques and approaches to be used by the AAA and its participating organisations.

Ten individual interviews with AMs of varying experience levels and professional background were undertaken to provide rich data with which to apply grounded theory to support an empirical basis for the anticipated practical outcomes. Interviews were undertaken between the end of July 2010 and early September 2010 and each interview took between 1 hour and 1.5 hours in length. The purpose of the interviews was to explore AMs background, professional career journey within the context of the projects they were responsible for and to gain rich insights into their lived AM experience. Interviews were recorded and transcribed and the software tool NVivo was used to help analyse data. Additionally, three unit managers (UMs) were interviewed using the same approach and research tools. These interviews lasting between 0.5 and 1 hour in length provided their perspective of what constitutes excellence in being an AM and how to best attract, retain and develop AMs.

We also sought advice through ad hoc exchanges with several other professionals concerned with developing AMs. Two further validation focus group workshops took place. The first in Melbourne in January 2011 with two senior current and former Alliance Leadership Team members took 3 hours and was recorded and notes were taken. The second took place in Auckland in early February 2011 with 7 AMs. The aim of both validation exercises was to present summary findings, to have these discussed, clarified, challenged and refined through gaining further insights from participants as well as to get an Australasian rather than purely Australian perspective.

Alliancing is a recent approach to project and program procurement with quite different demands upon required AMs’ skills, attributes and behaviours to that required of project managers adopting other forms of procurement such as Public Private Partnerships (PPPs), design and construction (D&C) or traditional contracting. The principal and defining difference between alliancing and other procurement forms is the degree of collaborative behaviours needed that require a very different business mindset to that of other business as usual project procurement forms.
The literatures accessed to provide explanatory power for authoritatively justifying research findings is drawn from standard project management (PM) sources as well as from the general fields of management, business and economics.

The main contribution that this makes to infrastructure provision industries, and the AAA in particular, is that findings are based upon a rigorous and well established and accepted research approach. The research team undertaking the study have experience from their own research expertise and have supervised numerous doctoral candidates, many of whom engaged in related research that contributed to the intellectual property developed in this study. A rigorous ethics approval process was followed through the participating universities undertaking the study to ensure the validity of the approach and methods used. The study is underpinned through triangulation using a range of salient literatures. We therefore suggest that this study moves insights into project alliancing beyond a tendency for unfounded rhetoric and unsubstantiated opinion. The study provides research results based upon empirical evidence and a sound review of the relevant and salient literature. While this study has its focus on alliancing with public sector project owners, alliancing has been historically used by private sector project owners, in the mining, hydrocarbon and minerals industry.

The full implication of this study is yet to be realised. We have proposed several approaches to the recruitment, retention and development of AMs; some are already being implemented and other new initiatives we propose will be considered and may be implemented in due course.

This full report will be posted, together with supplementary appendices on the AAA website http://www.alliancingassociation.org/. The full report appendices contain comprehensive tables of sub-category explanations together with supporting anonymous quotes from those interviews that support the sub-category themes and add weight to the body of evidence supporting our conclusions.

We acknowledge the generous time and effort that the anonymous respondents gave us to undertake this study as well as the continuous and valuable feedback on earlier drafts and for their ideas and practitioner-grounded insights in its final presentation.
This research was commissioned by the Alliancing Association of Australasia as an independent study to satisfy a particular need in better understanding the lived experience of AMs and how that knowledge leads to suitable candidates for this role being more effectively identified, recruited and retained and their skills further developed.

While project and program alliancing has grown over the past decade as a suitable and effective procurement form in Australasia, there have been few rigorous academic studies that can be drawn upon to provide academically rigorous independent research about current AM practice. This general aim led us to formulate a series of specific research questions that could help us attain our research goal. The pragmatic deliverable would be guidelines and tools to help improve the pool of available AMs and their career development.

Several questions naturally arise out of the broad thrust of the research:

<table>
<thead>
<tr>
<th>Research Question</th>
<th>Implication for this Research Project and Scoping of Research Objectives</th>
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<tr>
<td>Q1 What are the defining differences between alliancing and other forms of project procurement?</td>
<td>Alliancing may require particular skills of AMs over and above baseline PM skills. While there is a lot of empirical research literature about partnering there is very little about project alliancing.</td>
</tr>
<tr>
<td>Q2 How do these defining differences impact the required skills, knowledge and attributes of AMs as compared to general excellence in PM?</td>
<td>Some skills and attributes may be uniquely suited to alliance projects while others may be complementary to business-as-usual procurement forms.</td>
</tr>
<tr>
<td>Q3 What are the key features of an AM role that can be used to construct a tool to measure capability maturity?</td>
<td>Developing anything requires movement across a continuum of maturity and evolution stages. An AM capability maturity model would describe the stage of maturity of an AMs capability. This conceptual model would provide useful dimensions of AM skills and attributes for selection, recruitment and development.</td>
</tr>
</tbody>
</table>

Leads to the question that fulfils the research aims
How can AMs be best attracted, recruited, retained and developed to work in alliance projects?

Widening the potential pool of AMs
Developing a framework of guidelines, tools and approaches to provide AM development

Numerous academic literatures were accessed to help answer the research questions and provide supporting theory to inform propositions that provide suggested tools and techniques that can be applied to improve AM practice.

The report is structured as follows. The next section discusses the context for the study. This is followed by the results of the study. A brief discussion of relevant and salient theory to provide a strong rationale for the research approach and interpretation of findings follows. The research approach is then discussed. This is followed by conclusions and recommendations.
The concept of alliancing in delivering major projects is not new. Many alliances have been undertaken in Australia. Blismas and Harley (2008, p12) report on alliance trends from 1996-2008 with 44 alliance starting in 2007. Mills and Harley (2010) updated the status of alliancing in Australia for 2010. A report commissioned by the Department of Finance and Treasury commissioned a report (Wood and Duffield, 2009, pviii) confirms that “… alliancing can provide real benefits in the delivery of public infrastructure and has a place in the suite of other established procurement methods that are available to governments”. That report indicated that in 2009 alliancing provided value for money (VfM) within Australia.

This study takes place in a PM context. There is much useful and relevant literature from both PM and general management that can contribute ideas about how to address the research questions. We will draw upon a variety of PM and related general management literatures to expand the explanatory power of our case study analysis. Clearly, value for money (VfM) is of prime concern and having AMs that can maximise their team’s contribution to achieving VfM is paramount. An improved and more relevant alternative to the term ‘VfM’ may be ‘best value’ (BV) as VfM is highly focused on a monetary outcome whereas best value encompasses a far wider range of expected benefits than VfM. Recruiting AMs with a BV mindset appears a top priority issue. BV epitomises alliancing with a best-for-project prime priority.

The core categories of a model of behaviour and response to BV, supported by the literature review, suggest that there is a need for alignment between procurement type and performance expectations. In the alliancing relationship based procurement approach behaviour and response is based on: collaboration through joint problem framing and solving; the accepted model of success is wider than time/cost/fitness for purpose; and the driver for alliances is based on best-for-project needs and means. Further analysis and review of additional literature since the October AAA 2010 conference in Sydney led us to identify the management of uncertainty and ambiguity as a key finding that helps us differentiate between levels of AM expertise. This leads to a core feature of PAs as being a response to dealing with more project characteristic unknowns than knowns as illustrated in Figure 1.

Context of the study

The concept of alliancing in delivering major projects is not new. Many alliances have been undertaken in Australia. Blismas and Harley (2008, p12) report on alliance trends from 1996-2008 with 44 alliance starting in 2007. Mills and Harley (2010) updated the status of alliancing in Australia for 2010. A report commissioned by the Department of Finance and Treasury commissioned a report (Wood and Duffield, 2009, pviii) confirms that “… alliancing can provide real benefits in the delivery of public infrastructure and has a place in the suite of other established procurement methods that are available to governments”. That report indicated that in 2009 alliancing provided value for money (VfM) within Australia.

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Figure 1 illustrates a four-quadrant characterisation of states of knowing about a project’s scope, aims, methods and other relevant factors with appropriate responses expected of project owners (POs) or their representatives (PORs). Our focus on AMs dealing with uncertainty and ambiguity was triggered by numerous quotes that we used to ascertain the main difference between PAs and other relationship-based procurement forms. A recurring theme was that alliancing was best used when the interpretation of the accepted project business plan required considerable exploration of options and assessment of the wider impact and influences of how to deliver the project within the context of broader stakeholder needs that is generally the case for other more tightly bounded and defined project objectives. The focus on BV as opposed to VfM brings in many triple bottom line (3BL) complexities. This intense focus on balancing often paradoxical objectives requires the management of complementarities. This may mean a trade off of certainty about a plan of action to achieve a project stage objectives for example against re-programming the plan to achieve a social or environmental objective such as reducing potential hazards that a particular set of stakeholders may exercise a high level of concern about. While the project business case may appear to be clear and concise there may be considerable need to interpret, finesse, fine-tune, re-frame and iteratively re-interpret the best-for-project outcome. This is clearly a context of high levels of ambiguity about what is clear and accepted and uncertainty about how to best proceed to be affective, sustainable and re-frame an ‘either/or’ into a ‘both/and’ choice.

A further context of alliancing that emerges as particular to this form of procurement is that the collaboration required between the AM and the PO or POR and other non-owner participant (NOP) team leaders require two conditions. First, it requires a sophisticated PO or POR operating within a BV paradigm that is genuinely committed to sharing knowledge and insights about the core values of the business plan—what value means in the project context and how it may shift and vary over time. Second, it requires a sophisticated and versatile AM who can manage the inherent uncertainty and ambiguity that BV presents in a way that generates trust and confidence in those members of the alliancing team that form the decision making group. Trust and confidence must also extend to embrace the teams involved in implementing project strategy decisions and so an AM’s so-called ‘soft skills’ are pivotal in this context.

1) 3BL refers to achieving a balanced financial, social and environmental outcome.
To summarise this section about the study’s context, respondent’s quotes firmly placed PAs as being appropriate for: highly complex situation based on complexity of performance constraints on the project (especially time); structural constraints relating to organisational PO links with various governmental or quasi-government departments; stakeholder relationships (especially more distant ones such as ‘local community’ or ‘the environment’ that could remain vague, ambiguous or highly volatile in their potential influence; and the demands upon technological or process innovation as an expected PA outcome. While standard AM technical and basic project management skills are very important in managing risk, more subtle and difficult to define skills, attributes and experience are required to manage uncertainty and ambiguity. This study is most interested in how AMs strategically operate within the context of Quadrant 4 and Quadrant 3 while operationally operating in, or assuring that their team operates effectively in Quadrant 2 and Quadrant 1.

The implications of this for AM professional excellence are that:

1. There needs to be very high levels of collegiality to overcome Quadrant 4 constraints by sharing perspectives of what the ‘real problem is’ and what ‘the best solution to try is’ by developing strategies to transform challenges faced to a Quadrant 3 then to Quadrant 2 situation and finally that strategies are effectively implemented as operational plans in Quadrant 1. Therefore there is a critical need for collaboration between all people in teams—PO, POR and NOPs who take responsibility for project briefing, then design, then delivery.

2. People collaborating freely and transparently to share knowledge and perspectives is the prime source of value, currency, to enable uncertainty to be managed.

3. If we accept that collaboration is the first order determinant of value then trust, commitment, authentic ethical behaviour and ability to achieve complementarities must be valued, appreciated and nurtured;

4. This requires authentic leadership behaviours that conform to cultural norms of what all parties perceive to be ethical from their perspective;

5. This requires energy being transferred from governance based solely on the ‘iron triangle’ (time, cost fit-for purpose) to a governance framework that is based upon cultural-behavioural alignment of shared norms. This means that those leading alliances must possess a different mix of a leadership skill set than those engaged in BAU projects; and

6. Organisations need to consider the strategic impact upon their organisations from their key staff being engaged in alliances in terms of strategy re-alignment as well as opportunities and threats that this exposure presents.
Many non-alliance projects experience and cope well with risk and complexity. Traditional procurement methods deal with what may be called ‘tame’ problems and situations. Solutions can be developed in a linear and logical way. Technical expertise is the principal asset for achieving this. Basic traditional PM skills are used. The grey area of specifying an approach and the kinds of skills, attributes and experiences needed is entered in ‘messy problems’ and ‘messy situations’ (Hancock, 2010). Messy situations occur in Figure 1 Quadrant 3 and to some extend in Quadrant 2. The way to cope with messy problems is to look at them as a jigsaw puzzle, as occurring within the context of interacting and inter-relating systems, e.g. technical systems interfacing with regulatory or administrative systems.

Here system thinking is required in addition to understanding the nature (but not necessarily the detail) of the systems involved and how they interact. This requires both basic and more advanced PM skills such as system dynamics, stakeholder management, the psychology of communication and relationship management. Finally there are what are called ‘wicked problems’. Rittel and Webber (1973, 163) state that “with wicked problems, on the other hand, any solution, after being implemented, will generate waves of consequences over an extended-virtually an unbounded- period of time. Moreover, the next day’s consequences of the solution may yield utterly undesirable repercussions which outweigh the intended advantages or the advantages accomplished hitherto. In such cases, one would have been better off if the plan had never been carried out. The full consequences cannot be appraised until the waves of repercussions have completely run out, and we have no way of tracing all the waves through all the affected lives ahead of time or within a limited time span.” So these kinds of problems often found in Quadrant 4 requiring an act-sense-respond approach, need skill sets that demand decisive action but accompanied with reflection and analytical skills combined with good sensing and emotional intelligence skills. These insights provide clues in developing a taxonomy of skills, attributes, and experience for AMs.

The first pragmatic issue addressed in our analysis was to understand, and synthesise the understanding of participants, of core categories about what the category relating to the PAA really means to them. The interviewed conversations and stories led us to interpret the data as being a discussion about the ambience of a PA. We refer to this as the Alliance Ambience because it is more than a structure, or indeed an environment or even a process. A PA appears to have a ‘feel’ in a very sensual way. The principal artefact that other project procurement approaches exhibit is a contract that bounds acceptable behaviour. D&C, PPP or BOOT family forms and ‘hard money’ procurement all aspire to respecting the parties involved but they all acknowledge that each party has an agenda, a set of individual priorities that they have a commitment to. With PAs the overwhelming artefact that we perceive is trust and commitment and while there is a PAA, the whole best-for-project ethos suggests and indeed insists upon a higher order striving for value over cost expended, of timing over elapsed time, and a wider stakeholder benefit calculus over fitness for the purpose prescribed by the project documentation. There is a business plan that frames the project and all efforts are directed at meeting the expressed and implied benefits expected to be realised within the TOC, however this is accomplished within an atmosphere or ambience of behavioural or cultural expectations that are palpable yet intangible.
The research centred upon interviews perceptions, observations and accounts of the alliance ambience. Table 7 presents this alliance ambience view as it emerged from the data conceptualised as having three component categories.

**Table 7 - High Level Synthesis of the Empirical Data into Categories**

<table>
<thead>
<tr>
<th>Category</th>
<th>Sub-category</th>
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<tbody>
<tr>
<td>1. Espoused culture demonstrated through rules, expectations of alliance (PAA)</td>
<td>1.1. PA culture</td>
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<tr>
<td></td>
<td>1.2. PA governance</td>
</tr>
<tr>
<td></td>
<td>1.3. PA gamebreaking innovation</td>
</tr>
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<td></td>
<td>1.4. PA trust capacity</td>
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<tr>
<td></td>
<td>1.5. PA triple bottom line (3BL) aspirations</td>
</tr>
<tr>
<td>2. Culture in use</td>
<td>2.1. Drivers of culture</td>
</tr>
<tr>
<td></td>
<td>2.2. Enablers of culture</td>
</tr>
<tr>
<td>3. PA and changes to base organisations</td>
<td>3.1. Changes in organisation strategy</td>
</tr>
<tr>
<td></td>
<td>3.2. Changes in relationship management</td>
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<td></td>
<td>3.3. Changes in general business performance</td>
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</table>

These are explained in greater depth below. Each category is further analysed into categories that are presented in a detailed node structure in Appendix 1 in Volume II.

Data falling into the first high level category ‘Espoused culture demonstrated through rules, expectations of alliance (PAA)’ were able to be further segregated into sub-categories. These five sub-categories for the first category are: the project alliance (PA) culture; the PA Governance; PA Game breaking innovation; PA trust capacity; and PA triple bottom line (3BL) aspirations. The second category ‘Culture in use’ was coded into two main categories: drivers of culture and enablers of culture. The third category ‘PA and changes to base organisations’ was themed into: changes in business mix; changes in relationship management; and changes in general business performance: the espoused rules, expectations of the alliance as expressed in a project alliance agreement (PAA); the actual culture in use as described through participant's lived-experience of this espoused culture; and the way that the PAA impacted the participant's base organisation.

These are explained in more detail through each of the tables included in detail in Appendix 2 to Appendix 5 in Volume II. We start this analysis section with reference to the research questions.
Response to Research Question 1

Research question 1: What are the defining differences between alliencing and other forms of project procurement?

Table 8 summarises our response to research question 1.

Table 8 Response to Research Question 1

<table>
<thead>
<tr>
<th>Differences between PAs and non-PAs</th>
<th>Implications Required skill, attribute and experience</th>
<th>Comments and Notes</th>
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<tbody>
<tr>
<td>Level of explicitly specified certainty about project scope, delivery methods or context.</td>
<td>Sufficient technical skill of the PA technical aspects. Risk management skill and experience is a core competency.</td>
<td>AMs need sufficient technical and PM skills to know what kind of questions to ask other team members and/or expert advisors.</td>
</tr>
<tr>
<td>Flexibility needed to change scope, scale, and delivery methods to respond to changes in interpretation of the project business case.</td>
<td>Sufficient basic PM skills to plan for and respond to ambiguity, unknowns and uncertainties on how to manage the project delivery aspects.</td>
<td>Many non-PAs exhibit many elements of uncertainty, complexity and need for flexibility and resilience by project leaders and teams.</td>
</tr>
<tr>
<td>Need to proceed quickly to meet a critical project end date to deliver expected outcomes.</td>
<td>Sufficient advanced PM negotiation and communication skills such as stakeholder engagement, briefing, and conflict resolution.</td>
<td>However, PAs require considerable front-end work on developing the TOC, codes of conduct and expected behaviours. PAs also require more interaction with a broader level of stakeholder than most non-PAs.</td>
</tr>
<tr>
<td>Need to rapidly adapt and change direction in response to unexpected events with minimal cost, time and low or zero adverse project outcomes.</td>
<td>Transparent and demonstrated high levels of integrity, trust and commitment to the project.</td>
<td>The general construction industry culture is changing towards more innovation, better collaboration and observance of 3BL and wider stakeholder expectations.</td>
</tr>
<tr>
<td>Need to gain trust and confidence of the PO or POR as well as the operational team members.</td>
<td>High levels of energy and enthusiasm.</td>
<td>Non-PAs, however, operate on a paradigm of each party privileging its own priorities while trying to negotiate with others for any acceptable compromise.</td>
</tr>
<tr>
<td></td>
<td>High levels of patience and understanding.</td>
<td>Trust and confidence is closely linked with being an authentic leader and setting aside any aggressively commercial instincts.</td>
</tr>
<tr>
<td></td>
<td>A high level of integrity is required to gain trust and confidence of others.</td>
<td>The integration of a formal PA with a behaviour/relationship compact plus the shared cross-participant incentives and penalty commercial model makes a powerful dynamic.</td>
</tr>
<tr>
<td></td>
<td>PAs require three integrated components, the PA agreement, the relational compact and the incentivisation commercial component.</td>
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</table>

It became clear from the data that a PA does indeed require discernibly different qualities of those managing these projects as compared with other procurement options available to PORs. Interviewees stressed the opinion that PAs are ideal for situations where there is a poor understanding by the POR of the precise way that the proposed project business case should be translated and designed so that the project can commence and be pursued...
through to completion. They indicate that PAs work well where there is a lot of uncertainty surrounding the known unknowns (such as protocols, approvals, design details or best delivery methods for the project context) as well as the unknown unknowns (aspects that arise 'out of the blue' and so need heuristics on contingency and time allowances and uncertainty or ambiguities rather than risks that can be reasonably clearly understood and prepared for). Respondents also seem to be agreed that PAs are appropriate where close cross team mutual adjustment is needed, that is where people step in and fix an array of unforeseeable emerging problems as they arise from a range of teams rather than quarantine action to teams that have explicit contractual responsibility. High trust and commitment often exists within teams but can be highly strained across teams. The culture and ambience of a PA permits and requires mutual adjustment and willingness to consider and respond to the perspectives and priorities of others.

Traditional approaches were acknowledged to be suitable for situations where the main, goals and objectives are known in reasonably concrete terms and that methods are well known, understood and clear enough to be able to model in terms of plans, budgets and performance criteria. Additionally, if the client does not wish to participate in risk sharing or knowledge transfer in the development of plans then the PA form was considered to be a poor choice. For PAs the POR must be willing and able to participate as a full alliance member to help develop viable and acceptable options, methods and expected outcomes. The main difference between PPPs and PAs was found to be centred on the POR's willingness to share risk. Most PPPs were seen as a risk shifting procurement strategy where performance measures in terms of key performance measures (KPIs) were well established and that long-term responsibility for operational performance would be assumed by the PPP entity. In contrast, while in PAs overall key result areas (KRAs) may be established and form the basis of selecting the successful PA team, the POR would participate in refining the agreed TOC so that the maximum of front-end innovation in project design and proposed delivery would be established. It was interesting that the most experienced interviewees maintained that many of the relationship-based features of a PA involving integrity, commitment and respectful interaction of team members could be adapted to other procurement forms. They acknowledged, however, that the competitive nature and naturally different priorities of different parties in non-alliance projects tends to undermine the kind of alliance-like characteristics that delivers best-for-project and win-win attitudes amongst project participants.

The interwoven imperative of the three legs of the PA stool makes it a powerful and unique arrangement. The PA no-blame no suing agreement plus the collegiality social compact together with an explicit and accepted incentives and penalty shared by all is a defining feature of a project alliance.
Response to Research Question 2

Research question 2: How do these defining differences impact the required skills, knowledge and attributes of AMs as compared to general excellence in PM?

Table 9 summarises our response to research question 2.

Table 9 Response to Research Question 2

<table>
<thead>
<tr>
<th>Impact on required skills, attributes and experience</th>
<th>Implications for HRM and AM career management</th>
<th>Comments and Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Recruitment and career management may need more proactive intervention as many of the required attributes need many highly regarded project managers to re-frame their orientation away from being purely commercially minded to being more stakeholder focussed.</td>
<td>Continued focus on developing authentic leadership skills.</td>
<td>The relationship based and people management skills relate closely to developing enhanced emotional intelligence. This type of learning requires both 360 degree type feedback that can be part of the HRM process of performance evaluation but also peer conversations through mentoring and coaching and individual self-learning through gaining skills as a reflective practitioner is also more salient in a PA than non-PA situation.</td>
</tr>
<tr>
<td>There needs to be high emphasis on appreciative people management skills, high levels of integrity and authenticity in AMs.</td>
<td>Mentoring and coaching needed to help AMs develop reflection and sense making skills in relation to their practice to understand patterns and lessons learned to improve their adaptability and resilience.</td>
<td>AMs are often left to cope and manage their own careers even when they are nurturing others in their teams. They also need help in developing their capabilities.</td>
</tr>
<tr>
<td></td>
<td>Need for base organisation to effectively draw new knowledge and expertise gained by AMs back into the organisation.</td>
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</tbody>
</table>

Additional skill sets and attributes that are required of an AM that extends beyond what is expected of project manager were identified. It becomes evident from the data that the culture of cooperation, collaboration, innovation through cross-team learning and best-for-project focus drives the need for greater relational management skills, attributes and experiences. The data suggests that this is evidenced by a high level focus on collaboration, transparency, accountability, engendering an open culture of knowledge sharing and joint risk/reward absorption with an emphasis on trust, initiative, breakthrough innovation to achieve outstanding project outcomes and a set of outcomes that are well beyond the iron triangle of performance. Skills and attributes include greater emphasis on people-management and leadership skills, facilitating a learning environment for innovation to flourish, integrity and authenticity in leadership to allow trust and commitment to flourish and for governance to rely more on transformational rather than transactional leadership.

We also concluded from evidence gathered in the validation workshop phase during January and February 2011 that the defining characteristic of the highest level AM is being able to interact and influence at the business board level of the PO, POR and NOP organisations. This may well have been grounded in experience in general management with superior business development exposure or other forms of total business responsibility and accountability. It may also be gained through being a member of the alliance leadership team. We have illustrated the full range of AM skills is presented in Figure 6.
Hard skills are required to be a technically sound manager and also to be a good project manager. Personal attributes and values illustrate part of the required ‘soft-skills’ desired in project managers but necessary in alliance managers due to the more intense and pivotal role that relationship-building plays in alliancing. Authentic leadership relational leadership skills, knowledge and attributes define an alliance manager from a good project manager while they are often useful and advantageous for BAU PM they become critical for PA work.

Triple bottom line (3BL) collaborative values are a defining feature of many PAs as they are generally set up to meet the needs of a wider set of stakeholder than business as usual (BAU) projects where the commercial bottom line often takes precedence over the social and environmental bottom-line priority balancing act.

Another salient defining difference between PAs and BAU projects is that the highest level AM skills that we discovered related to board or ALT level potential to influence. This requires more than influencing skills involving being a good communicator or manipulator. The nature of alliances and the authenticity that permeates this procurement form requires high level of understanding of the fundamental needs and basis for the project business case. This is often present in those who have performed at a very high general management level. Thus, business understanding is foundational to being able to influence and interact at that level.

How are these skills developed? The data from the interviews complemented from validation workshops indicate that AM skills development is somewhat ad hoc. People who reach this level often have managed their own career path. Those that we interviewed who had experienced a career that extended to AM and ALT member or board members...
in substantial organisations in their ‘past lives’ told us that key defining characteristics of a top-level AM was a deep understanding of the value proposition for many organisations board level being an ability to truly understand the business case for a project (which for many infrastructure projects specifically includes 3BL elements). Additionally, they need to have high-level business influencing skills to shape strategy, explain it right down the line, and be able to understand the nuances of the project technology complexity and to be able to realistically and authentically manage performance intervening when necessary but more generally allowing the wider team latitude to resolve issues. We heard terms like leadership, trust and commitment used as necessary requirements of an AM. These are vague terms but we have operationalised them to answer question 3.

Response to Research Question 3

Research question 3: What are the key features of an AM role that can be used to construct a tool to measure capability maturity?

Table 10 summarises our response to research question 3.

Table 10 Response to Research Question 3

<table>
<thead>
<tr>
<th>Key features of the AM role</th>
<th>Implications developing a capability maturity tool</th>
<th>Comments and Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Key features identified in the study for AMs were the mix of ‘soft-skills’ in authentically leading teams and interacting with project sponsors and other salient stakeholders. Many of these features relate to inspiring confidence in others, being trusted and trusting, being effectively committed and resilient in dealing with challenges and unexpected events. Much of this relates to excellent technical, PM and leadership skills, attributes that reflect authenticity, and experience that demonstrates enthusiasm, pragmatism and having overcome challenges. Appendix 5</td>
<td>The three tables in Appendix 5 provide a useful basis for a capability maturity model for AMs. It maps out how these skills, attributes and experience was acquired and how it can be developed. The approach to maturity modelling of expertise by project managers suggested by Dreyfus (2004) and adapted for project management maturity by Cicmil (2003) and Walker, Cicmil, Thomas, Anbari and Bredillet (2008) can be adapted. Converting this analysis of the data into a tool requires further workshops to refine a matrix similar to that proposed in Appendix 6.</td>
<td>Appendix 6 can be used as the platform to develop a web based tool presented in Appendix 6. This is one of several potential options of how to move beyond just creating an instrument that identifies the level of AM expertise.</td>
</tr>
</tbody>
</table>

NB: The Appendices referred here can be found in Volume II.

The idea of creating a capability maturity tool is a first step in developing a complete AM identification, recruitment assessment, performance assessment and career development process.

Appendix 5 is particularly useful as a resource as is Appendix 6 - see Volume II. There needs to be more validation through workshops where AMs and those working in PA teams can contribute to testing propositions put forward and developing ideas for tools and techniques.

This is part of later phases of this research project so we cannot report on any progress towards that presently.
The reflection post-AAA 2010 conference helped us develop Figure 1 discussed earlier and to further refine Figure 6. Key findings relating to appropriately responding to messy and wicked problems set the defining difference between AM profiles. We suggest that managing uncertainty and ambiguity is a crucially defining AM expertise profiling criterion. AMs should be able to manage risk well as part of their basic PM skills, attributes, and experience. Risk tends to be known or knowable whereas uncertainty and ambiguity represent the challenge of the unknown that requires imagination and drawing upon deep knowledge, experience and insights to transform, interpret and project the known to the unknown. AM capability development moves along a path illustrated in Figure 1 where high-level mature and experienced AM performers are comfortable in Quadrant 4 (unknown-unknowns) to be able to shape the agenda through thoughtful response that draws upon their sense making and rapid performance monitoring skills and in so doing can organise a transfer to the Quadrant 3 (unknown-knowns) zone. They, or their mentored AMs at the next level that could be classified as developing intermediate AMs, could then convert high levels of confusion into conditions of uncertainty about what should be known, being able to inject some process into the response through probing and then sensing an appropriate response from a repertoire based on past experience. They can then lead the situation into a more traditional PM territory of Quadrant 2 where we know there are unknowns but we have the tools, techniques and approaches to cope well with these. Once appropriate responses are decided upon more clear and straightforward to lead the action required towards Quadrant 1 situations where ambiguities are clarified and unknowns at least have a ghostly shape of a known.

We developed a CMM in Appendix 6 of the full report with four levels of an AM profile—foundational, nascent, developing intermediate and mature experienced levels. We can relate these levels to Figure 1.

**Foundational AMs** are comfortable and highly competent in Quadrant 1 and may be quite proficient at the briefing process and scoping to be able to work within Quadrant 2 situations to help narrow down options into operational Quadrant 1 settings. This may be a limitation that can be identified. They need to also have divergent thinking and appetite for ambiguity to be able to influence team thinking to consider wider approaches, more innovation etc. They may, however, lack confidence in prompting divergent thinking and may have some limitations in recognising and understanding some of the systems that problems and situations are sited in. These may be new to the role and under close tutelage perhaps being in an acting role or assistant AM role.

**Nascent AMs** are able to recognise systems other than the technical systems that interact in messy situations. They are comfortable in Quadrant 2, are good at convergent thinking capable of encouraging divergent thinking but may get stuck in a rut, unable to move forward from planning to action and so may be seen as occasionally dithering and not being decisive at the right time. They are aware of Quadrant 3 style situational messiness and the need for divergent thinking to identify and cope with these unknowns-knowns but may not yet have confidence and ability to force a Quadrant 3 situation into a Quadrant 2 solution setting space.

**Developing intermediate AMs** are firmly confident in Quadrant 3 and can effectively use divergent thinking to see innovative solutions and to be able to switch to convergent thinking to create a Quadrant 2 situation from which to work in. They may still be uncomfortable or unable to be effortlessly effective in Quadrant 4 situations. They are good system thinkers and have wide enough experience to be aware of systems and sub-systems that nascent AMs would miss.
Mature experienced AMs have true helicopter vision of situations and so are confident to act-sense-respond in Quadrant 4 situations. The defining difference is their ability to effortlessly move from a systems to real world, trigger divergent thinking in others, be able to achieve rapid and effective reflection, sense-making and consequence-coping strategies so that they can successfully take Quadrant 4 situations down through Quadrant 3 then 2 then 1. It is this higher level of working confidently that we believe separates top level from mid-level AMs.

Using colours (see Figure 6 and Table 11), green indicates ‘hard’ or base PM and technical skills, light green indicates basic learning supported by experience with a level of reflection and connection being made between the two. Lemon indicates deliberate use of experience, learning and reflection to improve management skills and orange indicates personal attributes and/or ‘soft skills’ developed to the level of authentic leadership. Table 11 shows that at all stages of their career alliance managers require traditional PM and technical skills.

The need for personal attributes, or ‘soft skills,’ to be developed and applied increases as the AM moves toward mature experienced AM status. This has been highlighted using orange for attributes 8-10, graphically demonstrating that the soft skill requirements increase as alliance managers move from Foundational/Aspiring to Mature Experienced.
Table 11 - Three AM Skills and Experience Required of AMs

<table>
<thead>
<tr>
<th>Three skills and experience required of AMs - Hard Skills</th>
<th>Foundational</th>
<th>Aspiring</th>
<th>Nascent Recent</th>
<th>Developing Intermediate</th>
<th>Mature Experienced</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>1. Technical Skills and experience</strong></td>
<td>Recognised qualifications, training and experience in the project base technology.</td>
<td>Recognised qualifications, training and experience in the project base technology.</td>
<td>Recognised qualifications, training and experience in the project base technology.</td>
<td>Recognised qualifications, training and experience in the project base technology.</td>
<td>Comfort with the sure existence of knowledge gaps and unclear, ambiguous or unknown technical issues and the ability to frame questions and knowledge of where and how to obtain expert advice to respond to these.</td>
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<tr>
<td></td>
<td>Awareness of knowledge gaps and where to obtain expert advice to respond to these.</td>
<td>Awareness of complexities and knowledge gaps and analytical capacity to frame questions to obtain expert advice to respond to these.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>2. PM skills and experience</strong></td>
<td>Knowledge of traditional PM approaches and methods for planning, control and team management to deliver projects.</td>
<td>Knowledge of traditional PM approaches and methods for planning, control and ‘soft-skill’ team leadership skills to deliver projects.</td>
<td>Advanced level PM skills to include engaging stakeholders and facilitating commitment through effective leadership by example.</td>
<td>Demonstrated embedded and natural authentic leadership that drives project performance through complimenting and combining judgement about the extent and use of hard and soft skills.</td>
<td>Has been tested by difficult choices and decisions and learned from the experience as well as know to have sound judgement.</td>
</tr>
<tr>
<td></td>
<td>Understands what causes projects to be successful or otherwise.</td>
<td>Has experience in project turnaround from distressed to ‘back on track.’</td>
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</tr>
<tr>
<td><strong>3. Business skills and experience</strong></td>
<td>Awareness of business imperatives and the need for a coherent business case to frame project mission and objectives.</td>
<td>Understanding the fundamental values and business case for the project to be deliver benefits.</td>
<td>Participating in translating the business case into a project brief and supporting the project evaluation process at ALT level.</td>
<td>ALT and Board level experience of active engagement in translating and framing the business case into a project brief and evaluating project benefit realisation.</td>
<td>Has direct experience of learning from mistakes (self or others) in business strategy and delivery.</td>
</tr>
<tr>
<td>Seven authentic leadership characteristics/attributes - Soft Skills</td>
<td>Foundational Aspiring</td>
<td>Nascent Recent</td>
<td>Developing Intermediate</td>
<td>Mature Experienced</td>
<td></td>
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<td>---------------------------------------------------------------</td>
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<tr>
<td>4. Reflectiveness Systems thinker, strategic</td>
<td>Highly reactive to challenges and dependent upon formal learning, textbook advice, manuals and established procedures.</td>
<td>Reactive to challenges, while somewhat dependent upon formal learning, textbook advice, manuals and established procedures; balances this with learning from recent experience.</td>
<td>Contemplates and reflects before taking action to challenges based upon past experience and advice from others.</td>
<td>Contemplates and reflects while taking action to challenges based upon embedded past experience and critiqued advice from others.</td>
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</tr>
<tr>
<td>Reflectiveness level is contextual and knowing the context is the key.</td>
<td>Demonstrates a sense of uncertainty and is restricted to highly traditional responses. Probably unaware of wider or deeper situational context. Sees challenges more simplistically.</td>
<td>Demonstrates a sense of certainty based on traditional responses. Aware of potential complexity of the situational context. Unclear on how systems overlap or interface.</td>
<td>May at times be overwhelmed and struck with 'paralysis through analysis'. Values facts over hunches or intuition.</td>
<td>Able to take decisive action-based heuristics and comprehensive repertoire of past experience.</td>
<td></td>
</tr>
<tr>
<td>5. Pragmatic Gets on with the job, is politically astute, works within constraints.</td>
<td>Decision-making governed by ability to narrow options based on available knowledge and approaches. Frames problems and solutions to immediate resolution of issues.</td>
<td>Decision-making dominated by narrowing options based on available knowledge and approaches. Frames problems and solutions to short term resolution of issues.</td>
<td>Decision-making dominated by widening consideration of options based on available and potentially available knowledge and approaches. Frames problems and solutions to medium term resolution of issues.</td>
<td>Decision-making governed by screening many options based on a few narrow but salient criteria. Frames problems and solutions to medium/long-term resolution of issues while addressing immediate demands. Influences framing of situations and solutions.</td>
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<tr>
<td>Interpreting and re-framing rules to context and way in which action is justified is the key.</td>
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<tr>
<td>6. Appreciative EI rating, understanding the motivations and value proposition of all involved.</td>
<td>Tends to be unaware of how contextual pressures influence the motives and actions of others. Has a passive approach to attempting to influence others with strong opinions. Lacks awareness of the need to probe to find out what others need or want. Lacks confidence to impose closure on decision making.</td>
<td>Grapples with how contextual pressures influence the motives and actions of others. Lacks confidence to negotiate an agenda when attempting to influence others with strong opinions. Tends to allow discussion to drift when decision making or closes off discussion too soon. Lacks self-justification to know when to enact closure on decision making.</td>
<td>Has a strong sense of personal identity and influence in leading the opening up or narrowing of discussions. Understands the agendas and value proposition of others and appreciates demands placed upon them. Yet to develop total confidence in defending their own agendas and preferred position as short cuts to action when facing strong opposition from others.</td>
<td>Has a strong sense of personal identity and expertly shapes the agenda in effectively opening up or narrowing discussions. Responds to the agendas, value proposition and demands upon others by crafting priorities. Transforms strong opposition from others into innovative proposals through resolving paradoxes via an uncompromising ‘third way’.</td>
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<tr>
<td>Being able to judge the most effective response to teams and individuals about their value is the key in influencing others and being influenced by them.</td>
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</tr>
<tr>
<td>Characteristics</td>
<td>Foundational Aspiring</td>
<td>Nascent Recent</td>
<td>Developing Intermediate</td>
<td>Mature Experienced</td>
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<tr>
<td>7. Resilience</td>
<td>Shows great promise in rapidly absorbing new ideas and approaches and demonstrates examples of initiative and hard work.</td>
<td>Readily absorbs new ideas and approaches and seeks out opportunities to apply them. Uses disappointment and set backs as part of a learning experience.</td>
<td>Seeks new ideas and approaches and how to apply them. Assumes that the purpose of dealing with disappointment and set backs is to learn from experience.</td>
<td>Proactively leads the implementation of new ideas and approaches and how to apply them. Champions the outcome of set backs and disappointment as learning experiences. Supports creation of learning repositories for those developing leadership skills.</td>
<td></td>
</tr>
<tr>
<td>Adaptable, versatility, flexibility and being persistent. Able to effectively learn from experience.</td>
<td>Is able to cope with disappointment and set backs as part of a learning experience. Actively seeks advice from others to make sense of experience, especially unexpected outcomes from action.</td>
<td>Contributes to and shares with others making sense of experience, especially in developing explanations for unexpected outcomes from action.</td>
<td>Leads a process with others to make sense of experience, especially unexpected outcomes from action and embeds lessons-learned as a personal continuous improvement initiative.</td>
<td>Leads a culture of transforming set-backs into positive results and leads others to find problem work-around solutions that lead to sustainable contextual learning.</td>
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</tr>
<tr>
<td>8. Wisdom</td>
<td>Generally, advice and information is not sought of this person about technical or PM aspects unless in a narrow specialisation field. Seeks to become a ‘go to’ person by actively learning as much as possible about the ‘system’ project details etc. and offering to assist others in research or finding out about relevant issues.</td>
<td>Proactively and enthusiastically shares knowledge and insights to clarify context and gain confidence from others in their judgement and job-specific knowledge. Could be a sub-cultural representative that others seek their views from e.g. as a ‘younger’ AM or as somebody with valuable outside-group perspectives.</td>
<td>Has highly respected technical and either business or PM knowledge/skills that others actively tap into. Knowledge and advice offered is consistently seen as valuable, reliable and influential.</td>
<td>Has highly respected technical, business and PM knowledge and skills from others actively tap into as being pivotal to sound outcomes. Often strong business knowledge is the crucial differentiator as well as strong understanding of the strength of other team members to action plans and decisions.</td>
<td></td>
</tr>
<tr>
<td>Being the person with opinions and advice that is valued, consistent and reliable that others instinctively refer to.</td>
<td>Lacks confidence in getting others to openly discuss contentious issues or to ‘rock’ the boat. Assumes that prevailing assumptions must be correct for the context experienced.</td>
<td>Confident in getting others to openly discuss contentious issues or to be sceptical and question the status quo. Tests whether prevailing assumptions may be correct for the context experienced.</td>
<td>Adept in facilitating team members to be courageously sceptical when doubting the majority opinion. Challenges assumptions to inspire and facilitate innovation. Having the courage to make unpopular decisions when circumstances warrant it.</td>
<td>Provides stretch targets for interpreting the business case to arrive at an optimal solution. Encourages and demands ‘devils advocate’ positions and evidence-based challenges so that groupthink does not automatically prevail.</td>
<td></td>
</tr>
<tr>
<td>9. Spirited</td>
<td>Having the courage to effectively challenge assumptions. Being confident in the value of refining knowledge of context through questioning the status quo or assumed realities is vital to better understand contexts.</td>
<td>Lacks confidence in getting others to openly discuss contentious issues or to ‘rock’ the boat. Assumes that prevailing assumptions must be correct for the context experienced.</td>
<td>Confident in getting others to openly discuss contentious issues or to be sceptical and question the status quo. Tests whether prevailing assumptions may be correct for the context experienced.</td>
<td>Adept in facilitating team members to be courageously sceptical when doubting the majority opinion. Challenges assumptions to inspire and facilitate innovation. Having the courage to make unpopular decisions when circumstances warrant it.</td>
<td>Provides stretch targets for interpreting the business case to arrive at an optimal solution. Encourages and demands ‘devils advocate’ positions and evidence-based challenges so that groupthink does not automatically prevail.</td>
</tr>
</tbody>
</table>
### Seven authentic leadership characteristics/attributes - Soft Skills

<table>
<thead>
<tr>
<th>Foundational Aspiring</th>
<th>Nascent Recent</th>
<th>Developing Intermediate</th>
<th>Mature Experienced</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>10. Authentic</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Approachable and trustworthy and being seen as open to ideas, collaboration, discussion and new ways of thinking.</td>
<td>Having a reputation for being open to something new, adventurous and easy to collaborate with and to discuss ideas with.</td>
<td>Is good at collaborating with others, engenders trust and commitment. Having an ‘open-door’ policy, acknowledging the need for diversity in views when trying to understand issues.</td>
<td>Being respected as somebody who has an open mind and is swayed by solid evidence or sound reasoning argument. Collaborates as a natural style and is trusted for the quality of judgement and integrity of approach.</td>
</tr>
<tr>
<td>To be an effective broker and ‘go to’ person it is vital that this person must be open-minded and be available when needed. They must be collaborative, having integrity and being therefore perceived as trustworthy.</td>
<td>Being assumed to be trustworthy but not yet had the opportunity to demonstrate this in difficult situations.</td>
<td>Being seen as somebody who will listen to ‘bad news’ without blame or cover up.</td>
<td>Having high standards of integrity and a natural collaborator with others.</td>
</tr>
<tr>
<td></td>
<td>Being seen as somebody who will listen to ‘bad news’ without blame or cover up.</td>
<td>Holding several concurrent conflicting views of a situation and inviting challenges to any of these to obtain a clearer understanding.</td>
<td>People trust them and they are known for constancy of their action with their rhetoric.</td>
</tr>
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<td></td>
<td></td>
<td></td>
<td>Having wide business and life experience to have learned how to resolve paradoxes through seeing complementarities (combines opposites through re-framing dimensions to accommodate pragmatic ‘third way’ perspectives).</td>
</tr>
</tbody>
</table>
### Response to Research Question 4

**Research question 4: How can AMs be best attracted, recruited, retained and developed to work in alliance projects?**

Table 12 summarises our response to research question 4.

**Table 12 Response to Research Question 4**

<table>
<thead>
<tr>
<th>Staffing Issues</th>
<th>Implications for AAA and its members</th>
<th>Comments and Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>AMs need to be attracted to the role, recruited, selected, retained and developed</td>
<td>With PAs increasing in number, complexity and both scope and scale there needs to be a larger pool</td>
<td>Appendix 3 provides a sample of the quotes and insights under the three sub-categories for PA staffing, 2.2-4a, b and c as well as a sample of quotes and analysis of sub-category 2.2-5 community formation.</td>
</tr>
<tr>
<td>skills and experience that they gain needs to be absorbed back into both their base organisation and to the PO organisation.</td>
<td>of AMs being developed. If PAs take off overseas in the way that it has over the last decade in Australia, then there will be a tremendous competitive advantage for current AAA NOPs in having experience and a lead into other global markets. This increases the urgency for improved staffing of PAs.</td>
<td>Interesting insights include what motivates AMs and therefore what attracts them, the stories of their recruitment, selection and development is also insightful and useful and this informs the Appendix 6 work.</td>
</tr>
<tr>
<td>This is in part a strategic HRM issue and role. The data reveals questions about whether many NOP organisations see this as being strategic or operational.</td>
<td>PA work is changing the business mix and way that base NOPs are now working.</td>
<td>The sub-category on 2.2-5, community formation, stresses the importance of a healthy and happy PA ambience it also indicates how knowledge sharing takes place.</td>
</tr>
<tr>
<td>PAs are highly intensive learning organisations and so knowledge generation, use and transfer takes place. This is an undervalued and under recognised outcome.</td>
<td></td>
<td>The influence of PAs on base NOPs was surprising. The analysis of data suggests that a greater strategic HR involvement is needed and that lessons learned from managing ex-pats would be useful.</td>
</tr>
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</table>

**NB: The Appendices referred to here can be found in Volume II.**

Research question 4 led us to some useful insights into how PAs are affecting the construction and build engineering infrastructure facilities industries. There appears to be a seismic shift in a way of doing business that may have wide implications for not only participants but society in general. More research work needs to done into a range of issues not least how strategic HR needs to be better integrated into PA work, how knowledge management can be better leveraged into the organisations that participate and how to grow and improve the pool of talent working on PAs. Further, a number of participants stated that NOP organisations are finding that their base way of doing business is changing. Several interviewees stated (as quoted in Appendix 4, in Volume II of the full report, for example by IV-10 that most of the base organisation’s work and the case of IV-UM2 75% of the turnover) that now the majority of projects work is undertaken as alliances.
This has a profound impact on the requirements of the organisation's talent base. Whereas in a BAU setting profits largely depend upon the PM teams having a strong commercial sense to maximise revenue and profit the PA model relies on a competitive advantage through customer focus and relational skills that result in satisfied clients and influential project stakeholders.

One impression that was left with us from the analysis of interview transcripts was that strategic HR appears to not rise to the challenge of the change to how work is done in PAs. Potential AMs are identified and recruited in an ad hoc manner. Many people interviewed appeared to be invited to apply for an AM role or drifted into it, albeit via recommendation of an astute talent spotter in the recruiting organisation. Typically these targeted individuals demonstrated potential of being excellent in ‘people-skills’ or being creative in dealing with uncertainty and ambiguity. They also may have drifted into being an AM because of project staffing demands and being available—the so called accidental AM.

We did not believe that the evidence we gathered indicated that any disastrous AM choices in appointment were made, though many interviewees intimated that there was a flow of try-outs that proved unsuccessful in PAs. It is fortunate that PAs are gaining a reputation for being rewarding and stimulating projects to work on so there is a growing interest that can be tapped into. However, there is no denying an increase in scale and scope of PAs in infrastructure projects so there is an increasing gap between demand and supply of AMs as the scale and scope of all infrastructure projects grow.

How can AMs be trained? This is not a simple question. Figure 6 illustrates the AM skills, attributes and experience required. Many of these characteristics, beyond University education and on-the-job training that provide foundational and nascent AM level candidates are not the sort of characteristics that can be classroom taught or even developed quickly on the job though knowledge-about PAs can be delivered in short courses. Higher skill levels require concentrated learning that can be delivered through simulations via workshops or hypothetical case studies that involve an action learning cycle of planning, acting, reviewing, reflecting or perhaps reflecting, planning and then acting, reviewing and further reflection in a cycle. Mentoring and coaching also has its place. It is necessary therefore, for a supportive community of AMs to be established to engage in mentoring, coaching and knowledge exchange in a community of practice. These are discussed in more detail in Appendix 6, in Volume II of the full report.

It also became clear from our data that AMs feel that their career is left as a personal responsibility and that for many, even their base organisation’s development and training appears to bypass them as a result of being ‘an expatriate’ or contingent worker on an alliance or by moving from alliance to alliance with no home base anchorage. For organisations that intend to retain their AMs from PA to PA or from PA to BAU to PA, then they need to develop a strategy for not only attracting and recruiting AMs but to also develop them to increase their value as well as to respond to their professional development value proposition.

Putting aside any organisational strategic HR policy to develop AMs the fact remains that they tend to manage their own career development, albeit in an ad hoc and perhaps ineffective way. We propose that AAA may facilitate a form of web portal to facilitate this – perhaps called something like MyAMCareer. Such a portal could host information such as the CMM developed outcome that allows the person to be aware of various AM levels and how they could develop through those. It could provide links to courses and workshops and other learning events. It could provide reading and reference materials in text, sound, video or game formats. It could provide links to exemplars of PM that provide career models or mentors or coaches.
Question 4 can be answered briefly as follows. The industry needs to:

1. Attract a wider pool of potential AMs so participating organisations need to convince those that have the base skills (existing project managers in BAU projects) that a PA is a worthwhile career prospect;
2. Provide a career ladder to motivate existing AMs to remain in this kind of work and to progress upstream to be mature experienced AMs;
3. Better understand the motivation to become an AM and to improve within that role and develop strategies (such as those suggested in Appendix 7, in Volume II of the full report) to deliver that strategy;
4. Work with AMs in a strategic alliance to retain them and where they feel they need a break from PAs to actively provide return pathways;
5. Provide an attractive and active way to develop AM careers through strategic human resource management (HRM) initiatives.

With the current trend towards a shift in more relational-based procurement of projects and PAs or program alliances (a cluster of linked projects over time) the need to attract, recruit and retain AMs and team members that develop into AMs becomes a critical strategic issue.

A logical follow on question to Question 4 is what specific measures should be undertaken to educate, train and develop AMs. We therefore provide some ideas that AAA may wish to consider in Table 13.

Table 13 Formal Career Development Resources

<table>
<thead>
<tr>
<th>Type of skill or development</th>
<th>Provided by</th>
<th>Comments and Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Formal technical skills</td>
<td>Education system</td>
<td>Base technical skills required to understand the project should be a 'given'. Potential AMs should have gained these through formal training, most likely an undergraduate or postgraduate coursework Masters degree. Those without degrees would have acquired these skills through perhaps TAFE/VET or other studies supplemented by short courses and other formal training.</td>
</tr>
<tr>
<td>Formal technical base-level PM skills</td>
<td>Universities, PM private providers, within-firm training</td>
<td>The base-line PM skills associated with Project Management Institute (PMI) or Australian Institute of Project Management (AIPM) accreditation as a professional PM or Registered PM can be accessed via the Australia or NZ University sector. PM programs at Graduate Certificate and Graduate Diploma level (covering basic traditional PM skills) are offered in all major capital cities (except Darwin) in Australia but I believe that the UNITEC NZ Master of PM is no longer offered so perhaps those wishing to undertake a MPM do so through on-line access to Australian or other providers. There certainly are numerous on-line MPMs offered in the USA for example at Boston University, the University of Wisconsin etc. The PMI and AIPM also have a range of private trainers and education providers that can offer training in PM to prepare people for PMP or RegPM certification. Many universities within Australia can provide concentrated block-mode or single subject access to their Master Degree in PM programs provided that there are viable numbers (as a guide about 20 people or more enrolled). People can get some career development opportunities through participating in conferences and workshops offered by professional associations such as PMI, AIPM etc.</td>
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</table>
The advanced level PM skills that could be useful in a better grasp of AMs being leaders rather than managers, stakeholder management, and being able to create and support a climate and culture of innovation can be gained in part through higher level education programs offered through universities.

The Masters of PM at many universities provides some grounding, awareness and education at this level to help people develop ‘soft skills’ though it must be stressed that much of the ‘higher level’ PM skills acquisition is through reflective practice and experience. Many ‘soft skills’ associated with relational

AAA member firms or the AAA itself could develop a series of short courses or the MyAMCareer portal could provide links to providers for individuals or firms to follow up on.

AAA members may wish to participate in conferences on PM and AM issues. There are two global bodies that hold academic conferences on PM and advanced issues related to being an AM. These are the Project Management Institute’s research and education conference held every even year, the last one was in Washington DC in July 2010, the next will be in Ireland in Limerick. The other conference is IRNOP that holds its conferences every odd year. The last one in Berlin in 2009 and this year 2011 in Montreal. In addition there are academic streams to the annual conferences of the PMI and International Project Management Association (IPMA) of which the AIPM is a member.

Most universities in the Australian capital cities offer doctoral level study that could provide those who already have a Masters Degree to pursue a PhD while in the workplace. This is an especially demanding and long-term career development resource and would suit a few but not the bulk of potential AMs. The focus of the PhD topic should be based on advancing PM and AM knowledge and practice. RMIT, Macquarie University, and UTS for example have experience of delivering such programs. The University of Melbourne has also recently graduated a PhD (Dr Sean Sweeney) in a related area.

The most likely PhD or Doctor of PM thesis approach that AAA members may follow as part of their career development, action learning or case study work is the most likely. A doctorate typically takes 4-5 years of intensive study and research work if undertaken while employed as an AM. It can significantly enhance reflectiveness and wisdom but this can be achieved through less intense forms of formal study.

The AAA currently has a comprehensive suite of short courses and training opportunities that exposes AM and potential AMs to the theory and practice of alliancing.

Several alliance coaching and facilitation consultancies are also in a position to provide training and education in project or program alliancing. These currently provide a range of learning opportunities.
| Formal 'Soft skills' baseline understanding development | The education system | As noted above these can only provide 'what' type of knowledge about what EI is for example or how to define and understand the elements of trust or motivation and commitment. This restricted knowledge can be formally delivered by the indicated range of providers (next column left). Some experiential knowledge may be gained through simulations, workshops and structured action learning, mainly through reflection on action and effective de-briefing by expert facilitators. |
| 3BL knowledge | Internal formal workshops and training | | |
| Private Providers | AAA | | |

| High level business skills – board level or executive level | AAA | These skills and development as with 'soft skills' can be underpinned with awareness and basic 'what' or 'how to' kind of instruction and information transfer but cannot be formally 'learned'. |
| | Private Providers | | |
| | The education system | | |

| Learning to learn | Organisational underpinning | AMs can be provided with formal induction processes on how to learn and where to go to get valuable information, access to knowledge and information sources such as the MyAMCareer portal, or on the principles of action learning. We think that we can assist in developing guidelines for action learning that could be then further supported by AM’s base organization HRM departments. Colleagues as mentors or coaches can be invaluable in being part of the sense making and reflection for AMs as part of their action learning experiential skills development. The MyAMCareer portal could be a place where AMs store their reflections, where mentors or coaches could interact with them to record and maintain the AM’s growing learning repository. Personal commitment is essential as AMs can only learn from experience by putting in the time and effort to build their learning and career. Most engineering professions require newly graduated engineers to maintain a kind of learning diary and documented proof of their growth in experience. The MyAMCareer portal could be a useful tool for this. |
| Collegial help | | | |
| Personal commitment | | | |
| Developing EI and collaborative skills | Organisational underpinning | As above courses can be delivered on the ‘what’ type information and knowledge. Base organisations could provide 360-degree feedback and incorporate these in their performance and development reviews. | Collegial help | Colleagues as mentors or coaches can provide feedback perhaps AMs could use reflections on ‘critical incidents’ where various aspects of EI development could be learned through challenges and simulations. Workshops (real or virtual) where AMs can learn from their experience could be developed. The MyAMCareer portal could be a useful social media interface for this, perhaps small cohorts would form study groups facilitated and mediated by experienced coaches or mentors. | Psychometric testing | Tools such as IWAM continue to be useful in providing one-to-one feedback and analysis of leadership traits and development as IWAM, and other similar tools in use, help identify and measure a persons strengths and weaknesses, preferred ways of working and degree of congruence with various traits. |

| Learning to be pragmatic and resilient | Organisational underpinning | Base organisations and PA AMs could help by developing a set of case studies or simulations of challenges, disasters or complex problems. AMs could then respond to these simulations and receive external feedback as well as to post their reflections. | Collegial help | Colleagues as mentors or coaches would be necessary to provide feedback and de-briefing. |

| Developing spirit and courage | Organisational underpinning | This is dependent on an organisational culture that is congruent with this characteristic. Developing a set of case studies or simulations of challenges or complex scenarios of problems that could be faced is important to provide a compilation of challenges. | Collegial help | Colleagues as mentors or coaches would be necessary to provide feedback and de-briefing as would self-reflection. |

| Developing authenticity | Organisational underpinning | This is the most individualised characteristic to be developed. While principles of authentic leadership can be taught formally practicing them requires role models, cultural support and an environment where such values are valued. Dealing with difficult ethical or demanding situations where decisions need to be made or wicked problems are to be solved where there is no clear definition of them or obvious solution paths. People can learn from their mistakes but this is an ‘expensive’ and potentially wasteful exercise. This kind of education is suited to mentoring, coaching (being different from mentoring and being more organisationally led) and communities of practice to be able to find and discuss potential problems and solutions and access to role models and/or stories. | Collegial help | The MyAMCareer portal could be a useful place where proven authentic leader exemplars can be stored as stories for role modellng, perhaps as written up case studies or You-tube like video clips. |
The above provides some potential sources of advice and learning for developing skills and experience. To summarise the general thrust of our investigations we can see potential for:

- More closely engaging with AAA member organisation HRM departments to help identify what they should be doing and what the AAA may do;
- Continued use of formal courses and workshops run by AAA;
- Continued use of IWAM and similar tools for AMs to gain a better understanding of their traits, strengths and weakness in various areas and for highlighting gaps that may be filled in developing AMs career paths;
- Use of universities and short course trainer providers for specific learning that lends itself to a structured approach;
- Closer interaction with professional bodies such as PMI, AIPM, IEAust etc as well as accessing knowledge via their conferences and professional development resources;
- Developing a reflective learning and action learning based protocols for AMs to be able to develop their own careers (including the possibility of Masters or PhDs for those willing to make long-term learning commitments) and to learn from and gain better value from their experience;
- Simulations, hypotheticals, problem solving interactive workshops and repositories of difficult case studies on ethical or wicked problem dilemmas typically faced by AMs;
- Developing a network of mentors and coaches and linking them to a web based MyAMCareer portal;
- Developing a MyAMCareer portal for information dissemination to all members plus individual access only partitions for AMs to manage their own career development and keep documentation such as reflective learning diaries, copies of certification, CV development etc.; and
- Developing a MyAMCareer portal social networking communities of practice.

This provides sufficient food for thought to trigger some practical applications.
We have found that practitioners are often vague when asked to explain, for example, what makes a good AM—we typically get a response such as ‘good leadership’. But what does good leadership actually mean? We needed to move beyond vague and easily misunderstood terms such as ‘trust, commitment, collegiality’ to bring some clarity to enable us to understand interviewees’ responses in context. We therefore needed a framework of relevant previously established knowledge (the salient literature) that would help us clearly differentiate between levels of AM competence so that we could address research question 4. This provided the important contextual background to help us understand fundamental concepts used in this study.

We explained in the executive summary how we undertook the study and our research approach. We used a grounded theory approach (Strauss and Corbin, 1998) which means that we asked a lot of questions of experts in this area, and participants who have lived-experience to impart and we then made sense of the data we gathered in the form of transcripts and sound files. Using a particular software tool that is suitable for this purpose (NVivo9) we were able to identify emerging themes to help us make sense of the data. The outcome of this is the construction of a model (see Appendix 1) that comprises categories and sub-categories of elements that can be used to understand project alliancing practice. Appendix 1 provides a tree node diagram explanatory model of the data that resembles a work breakdown structure. To make a contribution to understanding we need to view this within a framework of salient existing knowledge (the literature). This section discusses various salient literatures that we used to inform research findings.

We studied nine areas of salient literature and present them in summary in Table 1 with a rationale for their inclusion. We follow that in more depth in the following sub-sections. This illustrates how theory contributes to the study.

Table 1 - Rationale of Chosen Salient Literature

<table>
<thead>
<tr>
<th>Salient Literature</th>
<th>Rationale for this study</th>
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<tbody>
<tr>
<td>1. Temporary Organisations</td>
<td>PAs are forms of a temporary organisation. The literature on organisational forms and theory is vast in the PM literature. Temporary organisations and their transitions and phases place emphasis on changes in management needs that differ from a purely operational management focus. Also it helps explain the rationale for the within or outside leadership selection decision.</td>
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<tr>
<td>2. Transactional and Relational Procurement Forms</td>
<td>It was important to discuss the various types of procurement choices so that AMs can be placed in context and how PAs differ from partnering for example. Procurement choices are also influenced by treatment of risk and uncertainty, who accepts what risk and when.</td>
</tr>
<tr>
<td>Section</td>
<td>Description</td>
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<td>---------</td>
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<tr>
<td>3. Economics of Decision Making</td>
<td>Transaction cost economics (TCE) is an important underlying theory to help explain why relationship based procurement makes economic sense and helps us take a holistic view of the ‘real’ cost of tendering, negotiation and governance. It also helps us better understand competitive advantage and PAs in that context.</td>
</tr>
<tr>
<td>4. Agency Theory</td>
<td>This is fundamental to understanding trust and commitment and the basis for contractual relationships and expectations.</td>
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<tr>
<td>5. Culture and a Learning Organisation Environment</td>
<td>Organisational and national cultural influences our perspectives and behaviours. PAs also stress innovation and learning as important baseline features of the PA approach. PAs are more people-centric than others procurement forms.</td>
</tr>
<tr>
<td>6. Importance of People</td>
<td>Projects are delivered by people. Concepts of leadership are often assumed to be obvious but are often expressed vaguely in reports. The knowledge, skills, attributes and experience (SKAE) of AMs is critical to PAs. This section discusses how AMs influence PA effectiveness through a relationship based focus and how HRM seems to be playing a suboptimal role from the findings of this study. We also discuss the importance of understanding attraction, retention and development of talent.</td>
</tr>
<tr>
<td>7. Leadership Implications for AM Selection and Retention</td>
<td>Understanding the way that leaders acquire and use types of power and influence is vital to AM PA behaviours.</td>
</tr>
<tr>
<td>8. Risk and uncertainty</td>
<td>The elements of authentic leadership are also outlined as is dealing with risk and uncertainty. These are fundamental elements in differentiating the levels of AM maturity that the report identifies.</td>
</tr>
<tr>
<td>9. Governance theory and practice in a PA context</td>
<td>PAs have higher order responsibilities and wider stakeholder accountabilities than other procurement forms. This places a greater focus on ethical and authentic designs of systems for assuring accountability and transparency of decision making.</td>
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</table>

The core categories of that model, supported by the literature review, suggest that there is a need for alignment between procurement type and performance. In relationship-based procurement that is based on: collaboration through joint problem framing and solving; a model of success that is wider than time/cost/fitness for purpose, and the driver for alliances being based on best-for-project needs and means.

The implications of this for AM professional excellence are that:

1. If we accept that collaboration is the first order determinant of value then trust, commitment, authentic ethical behaviour and ability to achieve complementarities must be valued, appreciated and nurtured;
2. This requires authentic leadership behaviours that conform to cultural norms of what all parties perceive to be ethical from their perspective;
3. This requires that energy be transferred from governance based solely on the ‘iron triangle’ (time, cost for-fit for purpose) to a governance framework that is based upon cultural-behavioural alignment of shared norms. This means that those leading alliances must possess a different leadership skill set to those engaged in BAU projects; and
4. Organisations need to consider the strategic impact upon their organisation of their key staff being engaged in alliances in terms of strategy re-alignment as well as opportunities and threats that this exposure presents.
4.1 Temporary organisations

Lundin and Söderholm (1995) were amongst the first to argue that project organisations are created as a means to fulfil a particular need in delivering particular benefits. Their temporary organisation view of PM is supported by other eminent PM thought leaders (Morris, 1994; Söderlund, 2004; Andersen, 2008). According to this paradigm, a base organisation establishes a separate organisation to deliver a defined benefit (or set of benefits) using the project as an organisational vehicle. Central to this theory is the recruitment of an appropriate leader and project team; sometimes this is from within the base organisation and often it involves staff from outside the base organisation.

This places the strategic attraction, recruitment, retention and development of project team leaders and members at the forefront of designing a system to best deliver expected benefits. It introduces issues, discussed at length later, about the way that permanent organisations lend staff to participate in projects as well as issues around how they retain and develop these people so that they can continue to contribute to the base organisation. Temporary organisations that import talent from outside a base organisation need to consider and plan for how they manage any subsequent transition when returning from a project back to the base organisation. They also need to attract the required quality of talent so that it makes the base organisation an employer of choice.

4.2 Transactional and relational procurement forms

The rationale for infrastructure projects is to deliver a particular set of facilities that in turn generate the required benefits. The project is a means to an end. The rationale (business case) for these projects should be clear and well enunciated. Risks and uncertainty should be well understood. If the base organisation (government or private) is clear about the nature of that need then a clearly scoped and specified brief can be developed to seek tenders from project deliverers.

The project procurement literature argues that if the rationale is clear and the scope and scale is well defined then either a traditional ‘hard money’ competitive tender design-bid-build (DBB) procurement option or a design and construct (D&C) option can be pursued (Masterman, 1992). If a government wishes to shift all project delivery risk to the contractor and also wants to avoid financing and operational risk, then a build own operate and transfer (BOOT) family scheme or public financing initiative (PFI) or public private partnership (PPP) approach may be adopted. For the private sector, an equivalent may be a lease-back or BOOT type deal. The project owner tries to achieve VfM through using a competitive tendering process. The key skills that the project leaders will need are technical, relating to the project delivery, and business skills to ensure an acceptable return on investment. There may also be some additional value to be gained from engaging highly skilled and technically knowledgeable contractors through using techniques such as value engineering (Male et al., 2007) or constructability for building projects (Sidwell and Mehertns, 1996; McGeorge and Palmer, 2002). These can offer more efficient options to the project owner for improving the project brief or project design. The focus, however, is generally on once off project outcome performance and not necessarily a continued business relationship with the project owner.

Clients such as government and major corporations increasingly acknowledge that there may be great uncertainty about a design solution to deliver the intended benefits and this has led to greater project delivery team leader integration and embeddedness at the project briefing and design development phase. The focus will still be centred on a best for project outcome, but it now often extends beyond a once-off project outcome performance to encompass developing superior working relationships with the POs and NOPs. This requires a relationship based procurement approach (Walker and Hampson, 2003a;
Walker and Rowlinson, 2008a). Options for this include various forms of project or program alliancing. One differentiating feature of a PPP over an alliance is that with a PPP the concession consortium that will develop the project takes on the risk (more specifically for cost and time) while for the alliance the risk is not only shared between the PO and NOPs but the NOPs also agree a risk and reward sharing formula between themselves based on the project success outcome. That risk reward sharing arrangement is applied to the entire team performance rather than individual participant performance and so there is a designed-in incentive for the NOPs to collaborate and ensure that one or more participant does not let the whole project team fail to reach agreed upon performance results. It is worth noting that the Wood and Duffield (2009) report and the Department of Treasury and Finance Victoria (2010a) caution against NOPs being too closely embedded with the project owner as suggestions made relating to developing the project business case to lead to scope creep and degradation of the original approved business case.

Notwithstanding the above caution, AM project leadership skills would need to mirror those for transactional procurement choices but with additional highly developed people-relational qualities and a focus on business skills to primarily benefit the project – so called best for project culture. Underpinning any relational procurement approach must lie acceptance that no participant can afford to be involved out of charity to the project if it is to remain sustainable and receive a viable and ‘reasonable’ return on effort and investment. The transactional part of a relational procurement approach becomes implicit through the way that trust is engendered, developed and applied about how each party will not be exploited and be encouraged to remain sustainable and viable—through the risk and reward arrangements.

4.3 Economics of decision making

Transaction cost economics (TCE) theory is about the motivation and rationale behind the decision to either do something yourself or get somebody else to do that thing for you. Coase (1937) and later Williamson in a series of papers (1975; 1985; 1991) put forward and developed TCE theory. In essence TCE theory explains decisions to make or buy an infrastructure item such as a bridge, tunnel, hospital, etc. by a government body. The choice is to source this entirely internally or to sub-contract, outsource or to in other ways get others to develop the item. There is a transaction cost for getting others to do this work. This includes obvious costs, over and above the resources that may be common to an internal purchase of required resources, such as a search cost to find and recruit bidders as well as the cost of tendering and, of course, the contract management and communication costs incurred. The rationale explained in purely economic terms is that if the cost to do this externally is overall less than doing so internally (due to efficiency of external sources and perhaps their innovation and intellectual property being superior to that available internally) then it makes economic sense to source the item externally. However, this is an economic rationalist view. In reality, governments and corporations make these decisions based on a range of both rational and emotional criteria—risk assessments, avoiding specialised skill and expertise shortages, social factors (keeping a private sector vibrant and viable) as well as a host of reasons that may be entirely political in nature.

This has an impact upon alliancing in terms of the TCE perspective of the cost of trust because alliances are founded upon mutually trusting behaviours between the commissioner of an item and those responsible for delivering it. The cost of trust in project alliances becomes apparent in terms of probity measures required, the cost to the commissioner of the item to invigilate the relationship, and costs incurred in developing and maintaining trust. The cost of tendering, selection, workshop, relationship building etc must be balanced (according to TCE theory) against a comparator of a traditional design, tender, build or variant of that procurement model.
More recently a focus on cost has been supplanted by a concern for value (Thiry, 1997; Walker and Hampson, 2003b; Thiry and Deguire, 2007; Walker and Rowlinson, 2008b). The value of developing a mutually trusting relationship as an antidote to wasteful disputation and game-playing tactics to gouge extra money in projects has for a long time been recognised (NBCC, 1989) as a goal worth achieving as a value enhancement and waste reduction tactic.

Further, the value of knowledge sharing and exchange is now becoming appreciated and ingrained in project procurement decision making (Walker and Maqsood, 2008). This occurs from the perspective of clients better sharing knowledge with a project design team to explain what they need and why they need it and from the perspective of the design team sharing knowledge with those that will build and maintain the output, a hospital for example, so that not only efficiency is gained but also effective solutions are proposed and considered. While knowledge value in both VfM and BV terms has not been very effectively monetised, there is a broad acceptance that even in terms of management energy and attention, the value of effective knowledge sharing is real and should be considered more seriously.

This brings us to the issue of competitive advantage. Competitive advantage is not restricted to the private sector. Government services and delivery are contested and contestable so a government procurement organisation that fails to demonstrate BV delivery can result in being ‘privatised’ or outsourced. Providers to clients also need to consider competitive advantage because there is a need for them to optimise (rather than maximise in the short term) their returns and remuneration so that they maintain a sustainable position in their market sector. Porter (1985) describes three types of competitive advantage, cost, position or customer focus, and differentiation advantage. As he puts it ‘Competitive advantage grows fundamentally out of value a firm is able to create for its buyers that exceeds the firm’s cost of creating it. Value is what buyers are willing to pay, and superior value stems from offering lower prices than competitors for equivalent benefits or providing unique benefits that more than offset a higher price… Interrelationships among business units are the principal means by which a diversified firm creates value’ (Porter, 1985: p3).

All three competitive advantage types are relevant to both government project owners and their NOPs in alliances. Cost advantage tracks back to an ability to provide what is quite easily visualised as VfM. The most economical and efficient solutions are developed and delivered. Customer focus relates to the ability of alliance team participants to develop a best-for-project culture so that they are focussed on delivering effective as well as efficient project outcomes. This may be also quite easily visualised in empathic behaviour of being keen and mindful in understanding the project owner’s fundamental need so that tacit or implicit expectations are met. In this case NOPs may, for example, challenge explicit assumptions about what is specified and engage in a debate to unearth better value solutions and approaches to project delivery. Differentiation may be evident in a number of ways. Project Owners may differentiate themselves within their organisation by proposing projects that present incremental or radical innovation, for example a road or rail project that helps a transport system better perform in aggregate. NOPs may differentiate themselves through developing a specialised bundle of skills or by having a special history of participating in projects where that potential knowledge and experience may be useful in niche specialised areas or as integrated solutions.

This view of sustainable competitive advantage links in well with TCE in explaining the rationale for project alliancing and the context of required skills, knowledge and other attributes. Potential criticism about alliancing may be centred purely on VfM in comparison to more traditional and transactional approaches such as design bid build (DBB) or design and construct (D&C). For many types of infrastructure projects criticism centres upon the
cost of governance, for example team establishment costs, VfM reporting, and probity. This criticism needs to be seen in terms differences between cost and value within a context of urgency, long term sustainability and business viability. A BV paradigm embraces triple bottom line (3BL) project outcome objectives, with for example, general industry upskilling or cultural change to a no-dispute or at least minimal dispute project environment.

Understanding an environmentally sustainable focus will naturally require additional and different skills, knowledge and attributes to a VfM paradigm. More traditional transactional procurement approaches involve many hidden costs that are borne by the NOPs through the overall cost of multiple tenderers or high governance costs associated with adopting a high control emphasis on project administration that can result in high disputation and legal costs. VfM does require attempts to acknowledge the value of intangible outcomes inherent in 3BL outcomes but the very presence of the word ‘money’ in VfM presents difficult challenges in valuing for example knowledge, goodwill, collaborative behaviour and other people-supportive behaviours—all skills and attributes that feature as essential for alliancing. A BV procurement basis can present more demanding challenges in adopting the same procurement approach generally used for more traditional VfM, if it is adopted. Therefore, as Table 2 illustrates, different skills and attributes are necessary for alliance projects that can be explained by the need to optimise transaction costs associated with acquiring these skills in project participants as well as the special competitive advantage skills associated with customer focus and service differentiation. Often the pool of potential alliance team members with the required skills and attributes is very small hence the traditional procurement approach for these projects fails on TCE grounds.

Table 2 – Competitive Advantage Skills and Behaviours for Alliancing

<table>
<thead>
<tr>
<th>Competitive Advantage</th>
<th>Alliance Owner edge over traditional procurement choices</th>
<th>NOP value proposition to alliance owner</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cost advantage</td>
<td>Delivering VfM and BV to the base organisation:</td>
<td>Assisting Owner to deliver superior VfM:</td>
<td></td>
</tr>
<tr>
<td></td>
<td>• Briefing and TOC comms both up &amp; down</td>
<td>• Empathic listening</td>
<td>Better briefing performance—both Owners and NOPs share knowledge and expertise.</td>
</tr>
<tr>
<td></td>
<td>• Optimising acquisition costs to source team</td>
<td>• Superior collaboration</td>
<td>Team selected on superior proven performance criteria.</td>
</tr>
<tr>
<td></td>
<td>• Optimising governance cost of managing teams</td>
<td>• Minimise governance TC through trust</td>
<td>Trust and commitment as principal paradigm.</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Superior performance leads to improved VfM and BV.</td>
</tr>
<tr>
<td>Customer focus</td>
<td>Alliances culture is best-for-project for the client</td>
<td>Focus on alignment to best-for-project.</td>
<td>Focus is on outcomes rather than output. Owner and NOPs share risk and reward as one entity</td>
</tr>
<tr>
<td>Differentiation</td>
<td>Suitable for uncertain or ambiguous projects</td>
<td>Superior, dynamic capabilities¹</td>
<td>Provides a most logical option for specific project types</td>
</tr>
</tbody>
</table>

TOC comms = communication between Owner-Project team leader about the turn out cost (TOC):

2) 3BL refers to the need for financial, social and environmental value (see Elkington, J. (1997) Cannibals with Forks, London, Capstone Publishing.

Table 2 illustrates defining differences that contribute to alliances providing a competitive advantage. From the project cost minimisation PO perspective, alliance projects are preferred for highly complex projects where it may be difficult if not impossible to sufficiently tie down details of the project brief (Department of Treasury and Finance Victoria, 2010b). This is because if the project detailed strategy and design is performance based and thus open to suggested tactics to deliver strategic objectives then the transaction cost of providing a detailed design upon which to base a cost/time/quality commitment and a further cost of administrating inevitable changes to the cost/time or details of quality performance, then planning and administration management consumes more value than working on a basis of assured performance based on trust that is mitigated through sound governance. This requires the concept of guarded trust or trust and probity co-inhabiting to ensure performance (Lewicki et al., 1998). It makes better sense for challenging projects of this type of complexity to be procured in a way that optimises transaction costs. Project owners that adopt alliances need skills and behaviours to work collaboratively and so they need to have NOPs with superior relational skills that engender trust and commitment that mirror this approach for it to operate effectively.

The best for project mindset by both project Owner and NOP is essential in providing a customer focus competitive advantage. This allows Owners to convince their base organisation that alliancing is a superior project procurement option for this class of project. NOPs with a strong customer focus can work more effectively with sophisticated project Owners where there is a commonly shared clear project vision toward all project team members can subscribe (Christenson and Walker, 2004; Christenson, 2007).

The differentiation competitive advantage of alliancing for project owners as a choice within their organisations is that it is suitable for specific project types. Projects that present uncertainties and complexity where much of the final shape and way that the project will unfold is subject to change lends itself to an alliance procurement choice. This results in a restricted pool of potential NOPs for such projects and so their applicable skills, experience and attitudes become their differentiation competitive advantage.

The way that procurement decisions are made about briefing, and both strategic and operational design and delivery, becomes a key factor in determining the required skills, experience and attributes of project team members.

4.4 Agency theory

We have discussed issues such as alliancing in terms of trust commitment and shared vision. We also started this section with reference to temporary organisations being established by base organisations to undertake projects on a ‘buy’ rather than an in-house ‘make’ decision.

If a base organisation’s senior leadership decides that a ‘buy’ option is needed for whatever reason, then there must be recognition of expected behaviour that will flow from such an arrangement. Davis, Schoorman and Donaldson (1997) outline agency theory. They discuss the concept of stewardship arguing that traditionally agency theory assumes that when an entity (person or organisation) decides to commission some other entity to act on their behalf to procure something that an inherent conflict of interest presents itself. Owners become principals when they decide to contract an agent to do something for them. According to agency theory, once there is a separation in identity from principal and agent two repercussions inevitably follow.

First, there is an imperfect understanding of the requirement because the principal can never fully explain what is required; however explicit the instruction is made there are
always implicit assumptions made on the part of the principal so the agent can never be fully clear as to what was requested. In PM terms this is the briefing process and so a highly skilled and effective agent is a person who can best elicit, refine, re-frame instructions and confirm meaning so that the explicit and implicit nature of instructions have as small a gap as is possible. In complex projects where alliancing is a favoured option, an agent's superb skills in empathic appreciation (Leonard and Rayport, 1997; Parker et al., 2008) of the principal are required and crucially important. This is manifested through being trusted, committed and authentic in behaviour.

Second, agency theory views agents and principals as being in a win-lose struggle where the asymmetry of knowledge, information, power and motivation for an outcome leads to a hidden but real struggle between parties to gain advantage. The principal is hoping to get the agent to perform to the agent’s agenda and vice versa. To overcome this tendency, governance structures need to be put in place to protect both parties from exploitation. In traditional and transactional procurement forms, a legal and administrative framework links both parties into set obligations and accountabilities. These are always imperfect and are subject to varying dispute, bargaining and energy being expended over the process of pursuing the goal of reconciling this paradox. This incurs inherent wastage in energy being directed towards reconciling disputes rather than achieving a shared project deliverable vision. The purpose of an alliance is to develop shared vision and goals and to put in place a governance system that maximises fairness to all parties and removes, or substantially reduces, the concern of being exploited. This explains the need for those involved in alliances to be highly trustworthy, be perceived to have strong integrity, and to be reliable. This means in practice that strong or exceptional technical skills are needed of NOPs as a baseline, with behaviours supplementing this that demonstrate trust, commitment to a shared vision with the PO and integrity that is often manifested as a best-for-project culture. This concept can be described as a stewardship model of leadership (Davis et al., 1997).

The concept of alliancing is based on trust and commitment; therefore these terms are worth explaining in greater detail. Mayer, Davis and Schoorman (1995: p715) argue that trust has a specific meaning and evolutionary. The need for trust in alliancing is evident when risk is involved: ‘can we trust these people?’ It is also relevant to uncertainty and ambiguity: ‘can we trust these estimated figures?’ So, what is trust? Why is it so necessary? Elements of trust are illustrated in Figure 2.

**Figure 2 Elements of Trust (Adapted from Mayer et al., 1995: p715)**
Trust is developed from three elements—ability, benevolence and integrity. Ability is the actual capacity to do what is committed to. Benevolence requires that the subject has good intentions towards the object of benevolence. Integrity is the strength of character or internal consistency to match what is proposed to that which is delivered. Moreover, these trust elements are influenced at three levels, as detailed below.

At the organisational level, ability is the capacity and resources to do what is promised. A convincingly successful relational track record will be important to demonstrate this. Benevolence relates to a relationship in which the subject will not take unfair advantage of the object and has protective feelings towards that object. Supporting evidence of this element could include indicators such as the organisation’s track record of its attitudes towards customers, supply chain partners and employees as evidenced by its dispute management procedures and an espoused corporate ethics charter. Integrity at the organisational level means that the organisation can demonstrate that it can do what it commits to and that it has sufficient systems, processes and resources in place to ensure that it can do what it says it will. In the National Museum of Australia (NMA) alliance one of the key alliance selection criteria was “Demonstrated understanding and affinity for operating as a member of an alliance”. Each of the participating companies was required to provide examples of working in a non-adversarial and collaborative manner as well as demonstrate their views on participating on risk/reward schemes. The willingness to wholeheartedly support and embrace the alliance philosophy was required. There was a focus on ideas, team working, sound past relationships and general knowledge about the alliancing concept. This criterion was about a demonstrated capacity for building, developing and maintaining trust and commitment” (Walker and Hampson, 2003d: p92-93).

At the contextual level these particular circumstances come into play despite the party’s best intentions and normal performance—all three elements may be in place for an organisation committing to a project but something about the operating environment still may inhibit delivery. Working in conflict zones, experiencing extreme resource bottlenecks or operating under emergency disaster conditions provide examples of a specific context mediating best organisational intentions and practice. Context modifies the organisational propensity for trust. Similarly, the individual level can moderate organisational propensity to be trusted. Each of these moderators may support or undermine these three factors. This is what makes trust such a difficult issue to accurately measure or evaluate. Sound judgement requires trust to be dynamically evaluated at each level simultaneously.

Moreover, trust can be volatile. Mayer et al. (1995) describe a model whereby the subject has a particular propensity to trust which is challenged by any event that tests the assumed level of trust and ways that events unfold, as affected by the expected (trusted) behaviours of the subject. They argue that challenging events have an impact upon the object’s assessment of how trustworthy the subject may be. Trust behaviour variance from that expected is understood at the organisational, contextual or individual level that mediates the level of trust held by the object towards the subject.

Lewicki et al. (1998) present a four quadrant model of high and low trust and distrust. High trust combined with high distrust results in a ‘trust but verify’ culture and this is both healthy and helpful. This requires that transparency, openness, sound governance and active verification measures are being undertaken. While this imposes a verification transaction cost, it can be enforced at varying intensity levels. The openness of Alliance Leadership Team (ALT) meetings where problems and solutions are transparently discussed in a no-blame environment with a need for consensus on adopted solutions exemplifies this kind of trust-but-verify mentality. Alliances generally provide for open-book transparency and the use of probity verification.
Commitment also has several shades of meaning. Meyer and others have over many years researched the nature of commitment. The resulting model proposes three types of commitment (Meyer and Allen, 1991; Meyer and Herscovitch, 2001). The lowest form (beyond mere compliance) is called continuance commitment and relates to a feeling that one needs to be committed to continue in order to continue to receive benefits gained from something. Normative commitment is feeling obliged, but not necessarily being convinced, to commit to something. The highest level of commitment, and mostly we tend to think of ‘real’ commitment in these terms, is affective commitment. This is the ‘want-to’ type of commitment and this is where mutual goals coincide so that parties share a vision or objective. Alliances and ‘good’ alliance behaviours are centred upon this type of commitment and allow the agent and principal to both have shared goals and vision. This view of commitment fits with the authentic leadership literature (Avolio et al., 2004). Avolio et al. (2004: p803) propose a model that shows follower behaviours being influenced by hope and positive emotions.

The ability to develop a clear and well enunciated vision, a preferred future state, is an essential ingredient of inspirational and authentic leadership when combined with an ability to clearly describe and communicate that vision and why it is so important to others to follow that vision (Lynn and Akgün, 2001; Christenson and Walker, 2004; Christenson, 2007; Eskerod and Riis, 2009). A key skill that both project and alliance managers should possess is the ability to express, and to convince others in the project team to accept, a well crafted vision for the project. This may need some level of translation of the project business case to clarify crucial expectations. It certainly requires highly attuned communication and empathy skills to effectively develop a brief and to communicate that brief in terms of required action plans to deliver the desired outcome.

Agency theory helps us to understand not only what behaviours are desirable and necessary in alliance managers but also why these are vital. Table 3 illustrates required AM behaviours.

**Table 3 - Alliance Managers Behaviours from an Agency Theory perspective**

<table>
<thead>
<tr>
<th>Agency element</th>
<th>Relevant AM behaviour/skill implications</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Principal and agent developing a shared understanding of the project.</strong>&lt;br&gt;This is a two-way street. BOTH principle AND agent need these skills. A principle needs to have skills in developing a sound and clear vision of the benefit to in turn develop a clear and compelling business. The agent needs these skills to lead and inspire the project team. Fine tuning detailed requirements from a good business case into project plans requires excellent briefing skills.</td>
<td>• Empathy (see for example Parker et al., 2006) – the need to acknowledge and understand the ‘other’s’ perspective.&lt;br&gt;• Vision building (Christenson and Walker, 2004; Christenson, 2007) – the need to be able to identify and build a clear picture of the benefit to be delivered in terms that provides a coherent and compelling vision of a better future.&lt;br&gt;• Communication of meaning, impact and rational of a vision (Lynn and Akgün, 2001; Eskerod and Riis, 2009) – the need to be able to state the vision and its value in clear and compelling terms.&lt;br&gt;• Engendering affective commitment in self and others (Meyer and Allen, 1991; Meyer and Herscovitch, 2001) – alignment of goals and motivations&lt;br&gt;• Business case development (Wood and Duffield, 2009) – a clear and compelling statement of benefits, risk and uncertainty and strategic need for the project&lt;br&gt;• Briefing skills (Barrett and Stanley, 1999; Green and Simister, 1999; Kelly and Duerk, 2002) – an ability to take conceptual information and integrate it with knowledge from PO and NOPs to shape the project specification and strategic path to delivery.</td>
</tr>
</tbody>
</table>
Coherence in principal and agent working relationship

There has to be excellence in both trust and commitment to achieve win-win outcomes so that both parties can effectively contribute ideas and energy to the project.

| • Trust (Mayer et al., 1995; Davis et al., 1997) – being able to demonstrate capacity, motivation, beneficence and integrity at the organisational, contextual and individual level. Integrity is expanded upon below.
• Commitment (Meyer and Allen, 1991) – demonstrating aligned ‘want-to’ motivation to achieve project vision and goals.
• Integrity (Avolio and Gardner, 2005) – demonstrating an ability to ‘walk the walk’ as well as ‘talk the talk’, demonstrating ethical standards and values consistency between principal and agent through stewardship (Davis et al., 1997) i.e. demonstrating higher order authentic leadership in which it is clear that the integrity and value of the project vision is being maintained and supported and having authenticity (Avolio and Gardner, 2005) by demonstrating congruence between espoused values and practice |

VfM is strongly based upon an economic theory of decision making agency and has its focus on governance and relationship management. However, so-called soft management issues are becoming more important along with the importance of understanding context and responding in a pragmatically adaptive yet authentic way rather than rigidly applying rules or adhering to received traditional wisdom. BV considerations tend to include greater consideration of intangible outcomes than VfM.

The next section discusses issues specifically relevant to so-called soft leadership issues.

4.5 Culture and a learning organisation environment

The important emergent issues related to agency theory discussed above centre on developing a culture in alliancing that takes advantage of the knowledge and experience that parties to an alliance can contribute, it is also about organisational culture—particularly organisational learning readiness.

Any discussion on alliancing skills or attributes would be incomplete without reference to culture. Culture sets the framework for people’s perception of the norms that are congruent with and aligned to a particular project procurement approach. Alliances are based on shared perceptions of the project goal and how each party can align their aims and values to achieve that common goal or vision.

Two interesting strands of theory on culture are relevant to this argument: national cultural traits and organisational culture traits. Culture affects our view of what is acceptable behaviour and shapes our commitment drivers (Schein, 2004). Key literature in national culture explains the way that people perceive social reality as being centred on their position on several dimensions. However, before continuing it is worth explaining what culture actually means. Culture is often expressed as ‘the way we do things here’. It is an expression about a world view; a sense of personal reality. At the very core of culture is a set of values, those characteristics and beliefs that are held as being ‘the truth’ and ‘what really counts’. The core values are made manifest through symbols and rituals that represent those core values, they are cultural artefacts (Schein, 2004). Examples of such artefacts and rituals can be the uniform and discipline associated with the army in whatever country one cares to consider. Core values of the armed forces are usually service to a country to defend and protect national integrity. Associated rituals with armed forces include parades and displays of the army’s power, and the way that historical events are interpreted. Symbols of this culture are represented by uniform, rank, badges etc.
While the concept of culture can be seen as universal in this way, cultural dimensions vary. Hofstede (1991) was a pioneer in cultural studies with his famous research of cultural traits of IBM employees across the globe. This study influenced further studies into culture based on his findings even though Hofstede’s study was limited to one company and in many of the countries included in the study the sample size was very small. A more recent and more inclusive study, the Global Leadership and Organizational Behaviour Effectiveness (GLOBE), extended Hofstede’s cultural dimensions findings through a study across 61 nations. This more extensive and comprehensive statement arrived at nine dimensions of people’s attitudes and behaviours (House et al., 2002: p5-6). These are:

1. **Uncertainty avoidance** – avoiding uncertainty by reliance on rules, rituals, norms and behaviour acceptable to that group;
2. **Power distance** – the degree to which the group accepts the validity of power and influence that a particular class of that group may exert over others;
3. **Societal collectivism** – the extent to which individuals accept the predominant way that rewards and recognition to particular segments of that group should be distributed;
4. **In-group collectivism** – the extent to which individuals express pride and coherent loyalty to their families or clan groups;
5. **Gender egalitarianism** – the extent to which that group minimises role differences or discrimination on the basis of gender;
6. **Assertiveness** – the degree to which members within a society are assertive, aggressive or confrontational in their social relationships;
7. **Future orientation** – the way that they view time in terms of how the plan for the future and how they value rewards in terms of present or future gratification;
8. **Performance orientation** – the extent to which society encourages and rewards individuals in groups for improved group performance and excellence; and
9. **Humane orientation** – the extent to which societies reward and encourage being fair, friendly, generous and mindful of others.

We can see that certain of these dimensions are certainly skewed in a particular direction for rewards and sanctions exhibited by different types of procurement approach. The GLOBE study and Hofstede’s work mapped national cultural traits. It is not argued that these are hardwired into various national or cultural groups; rather they are natural default settings. What becomes useful and interesting from an alliance perspective is that we can look at background institutions (history, legal frameworks, educational or religious influences) as providing core assumptions that underpin shared values that are recognised through observable artefacts. We can see how culture influences likely default behavioural patterns. This may help us better identify alliance friendly traits and likely danger signals when recruiting, retaining and developing AMs. Figure 3 illustrates a systems view of culture drawn from Rowlinson et al., (2008).

Figure 3 A Systems View of Culture (Source: Rowlinson et al., 2008: p279)
The way in which observable artefacts indicate shared values that in turn point to common assumptions can be seen in Figure 3. This figure also indicates the world of cultures that people belong to. While elements of their default cultural settings may be partially determined by the society that people are born into and acquire through their formative experiences, other influences also moderate and recalibrate some of the common assumptions. Schein (1996) observed that there are three communities within many organisations: executives, engineers and operatives. These seem to live with highly separate world views and so find great difficulty in understanding each others’ realities.

Professional societies or other organisational units tend to share common codes of ethical conduct and while many professions have overlapping ethical standards there may be significant differences in assumptions about acceptable conduct. Ethical treatment of the provision of tea, coffee biscuits etc in government departments in Australia, for example, may demand that each individual is responsible for these because of the need to ensure no hint of bribery or of ‘rorting the system’ while construction contractors and many other companies in a project supply chain may take for granted that the employer naturally provides such facilities. This type of organisational culture artefact can lead to the need for a clear definition of what are acceptable behaviours and expectations for this kind of cross-cultural issue. Other examples can relate to what is acceptable behaviour in challenging ideas. In high power-distance and high uncertainty avoidance cultures, questioning authority or the applicability of traditions or guidelines/rules is frowned upon whereas in low power-distance and low uncertainty avoidance cultures these kinds of challenges are encouraged. Professions, organisations as well as national groups can be characterised using the nine cultural dimensions listed above. What is often needed is what Parker et al. (2008: p151) refer to as active perspective taking, that is trying to understand (in a non-judgemental way) those they are interacting in terms of what they are thinking, feeling and perceiving from any exchange. It requires observing artefacts, actively listening and prompting for cues that lead the observer to better understand the values and assumptions that reveals cultural taproots (as illustrated in Figure 3). Parker et al. (2008: p170) provide a model of work-based influences on active perspective-taking effectiveness and note several contributing influences upon effectiveness of perspective taking. They provide useful guidance on a perspective taker’s capacity by discussing four specific capacity characteristics than can be useful in identifying desired traits in AMs. These four influences are:

1. Cognitive complexity, emotional regulation and interpersonal capabilities that are sometimes referred to as emotional intelligence (EI);
2. Perspective taking strategies such as focussing on feelings and communication behaviours (body language);
3. Situational-specific knowledge of history and context of previous interactions; and
4. The affective state (mood) of both parties.

Table 4 illustrates how these cultural dimensions can be interpreted in terms of perspective taking capacity and alliance behaviour.

Table 4 – Culture and Alliance Skills Knowledge and Attributes

<table>
<thead>
<tr>
<th>Cultural Characteristic</th>
<th>Relevant skills and behaviour implication and examples</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Uncertainty</td>
<td>Managing risk and uncertainty – ability to discuss risk and expose underlying avoidance assumptions to better reveal previously unforeseen uncertainties. Complex projects are subject to rules and regulations but often iconoclastic thinking drives radical innovation.</td>
</tr>
</tbody>
</table>
2. Power distance
Balancing respect for expertise and power and authority while maintaining collegiality. Risk should be borne by those best able to manage it rather than allocated to those traditionally expected to bear the risk. High power distance may inhibit an AM in being able to gain vital information or knowledge from alliance team members who are reluctant to volunteer a contribution.

3. Societal collectivism
The risk and reward and painsharing/gainsharing formula needs to encourage game breaking outcomes. The very nature of an alliance is that all participants to the alliance contract agree to sink or swim together and to share pain or gain to a previously agreed formula.

4. In-group collectivism
Best-for-project outcomes are matched by a project alliance identity; cultural artefacts and symbols are important integrators such as co-location, badging or branding of a project by project name for example.

5. Gender egalitarianism
A best-for-project culture requires the best source of talent regardless of background, gender or other differentiating characteristic.

6. Assertiveness
An alliance TOC is developed and monitored through assertively challenging assumptions.

7. Future orientation
Projects are by definition future oriented to deliver a future benefit. However, the way that time is viewed can be substantially different for alliances compared to other procurement forms. The idea of entrainment (Söderlund, 2010) is important, that is activities need to be orchestrated in place when required within a broader picture rather than delivered on an early/last start finish basis. This requires AMs to consider the timing of decisions and deliverables within the overall context of the project and owner’s needs—this is particularly true of program rather than project alliances.

8. Performance orientation
The earlier discussion of VfM and BV highlighted this dimension. The whole issue of painsharing and gainsharing formulae are critical to this dimension. Further, alliances as discussed in Section 4.3 have been seen to be more explicitly focussed on 3BL issues.

9. Humane orientation
Most alliances seek a wider outcome than the project output. An alliance charter requires and specifies expected humane behaviours such as mutual respect and civil behaviour that enables consensus making over decisions at the ALT level and other levels within the project. This kind of culture can be very different from a transactional procurement approach where a ‘whatever it takes’ mentality may be valued

The workplace culture is a critical element in knowledge transfer (Peansupap, 2004; Peansupap and Walker, 2005; 2006). An alliance requires a great deal of knowledge sharing for briefing, decision making, planning and coordinating action using explicit knowledge as well as tacit knowledge that largely remains unarticulated and embedded in people’s heads or in abstract routines. Szulanski (1996) identified four general causes is what he calls stickiness of knowledge (that is its difficulty in being transferred between people). Several of the factors include what he refers to as a ‘barren context’. This means that the environment inhibits knowledge sharing by being hostile, or that individuals within that environment do not value each other’s expertise or that the environment is not supportive for knowledge sharing. Peansupap and Walker (2006) in a study of innovation diffusion of information communication technology (ICT) tools by four Australian leading IT-experienced construction companies also showed how time lags and feedback loops can hinder knowledge transfer at the organisational, group and individual level. These issues pertain to culture and have a significant impact and implication for AM recruitment, retention and development.

4.6 Importance of people
The importance of people to organisational success increased as we moved to a knowledge and service economy (Delaney and Huselid, 1996); employees have been described as an organisation’s greatest asset (Tansley et al., 2001). People are important in a project environment because it is the employees that deliver the project, not the processes or systems (Cooke-Davies, 2002). Reinforcing this belief, Whitty (2005: p577) states that
projects are ‘a synthesis of human sensations and expectations about how multiple resources’ should be used. It is people that make projects happen. How people are managed through the HR policies and processes in place in a project-oriented organisation may be viewed as a core process because it affects ‘the way the organization acquires and uses human resources and how employees experience the employment relationship’ (Huemann et al., 2007).

Knowledge, Skills, Abilities and Other Characteristics Required for Project Management

Gale and Brown (2003) comment on the changing professional development needs for project management in the changing business environment. They agree with Humphreys (2001) that project managers need to develop business skills and interpersonal or soft skills to combine with the technical skills required for project management. Research conducted by Stevenson and Starkweather (2010) found that IT executives worldwide identified six critical core competencies, all of which can be defined as soft skills: including leadership, communicating at multiple levels, both written and verbal communication skills, an ability to deal with ambiguity and change. Seppänen (2002) described project management competencies in relation to software development projects as having two layers: with ‘substance’ and ‘dynamic’. Substance competencies are the basic technical skills required to work in the field and dynamic competencies are those required to successfully operate within an environment of changed relationships between the players in the process.

Alliancing changes the relationships between players. Those working on alliance projects now need to relate to all people involved in ensuring the desired outcome is achieved. Whereas in the past a construction manager, for instance, could work almost in isolation, they must now work with those managing the social, environmental and other issues within the project. A construction manager that moves ahead without considering other issues will cause problems in another area of the project, perhaps even requiring the work that was completed to be re-worked. Humphrey’s (2001)) soft skills, the soft skills identified by Stevenson and Starkweather (2010) and Seppänen’s (2002) competencies within the dynamic layer are all required here. Alliance team members must communicate with other team members at a variety of levels and move forward in unison, thus an environment of changed relationships exists on an alliance when compared to a traditional project.

Gale and Brown (2003: p415) quote Morris’s (1994) principal competencies of a project manager as:

• skills in project management methods and tools;
• team and people skills;
• basic business and management skills;
• knowledge of project sponsor role;
• knowledge and awareness of project environment;
• technical knowledge (specialised discipline skills); and
• integrative abilities of the above skills and knowledge.

The competencies listed above, Humphrey’s (2001) and Stevenson and Starkweather’s (2010) soft skills, Seppänen’s (2002) dynamic layer of skills and acknowledgement of an environment of changed relationships, and Gale and Brown’s (2003) view that project managers are working in a changed business environment today combine with the alliance environment to suggest even greater demands in relation to relationships. Team and people skills in an alliance environment include working closely with others from a range of specialised skill areas, those who are in other contexts competitors and the owner or client. The project sponsor role takes on another dimension in an alliance and all alliance team members are expected to have an even more in depth knowledge and awareness of the total alliance project environment. What this indicates is that successful alliancing requires an even greater emphasis on the already established project management competencies.
and another level of relationship, team and people skills, and two-way communication skills such that the level of awareness of the project environment ensures that all alliance participants are working together to achieve their goal.

4.6.1 Relationships and Knowledge Sharing in Projects

In an era where knowledge and relationships provide considerable competitive advantage, the people who possess that knowledge and who establish and maintain those relationships will be vital for sustainability. Knowledge sharing within project management has been researched and its importance acknowledged (Fernie et al., 2003). This is especially so in alliances, where the relationship between alliance partners is vital for project success and where knowledge sharing is part of the transparency initiatives. Co-location within the alliance entity provides the opportunity for knowledge transfer through social activity (Goh, 2002) as “most knowledge sharing occurs informally” (Reid, 2003: p43). Trust is both required for and established and maintained through knowledge sharing, thus it is an important component of a collaborative environment. Shared vision is required if exchange is to occur. Shared norms and identity lead to increased mutual understanding between members of an organisation (Nahapiet and Ghoshal, 1998).

The process of establishing an alliance project requires that partners discuss and develop a shared vision for the alliance. Once established, co-location within the alliance entity could be expected to support development of a shared vision and thus increased trust leading to knowledge sharing. Li (2005) researched the relationship between trust, shared vision and knowledge transfer. Both trust and shared vision were found to be important in facilitating the transfer of knowledge, but whilst trust influenced inter-organisational relationships shared vision had a greater influence on intra-organisational relationships. The nature of alliances, with intra alliance relationships and continuing relationships between individual alliance partners and owners, especially public sector and major works initiators, supports the need for both of these knowledge sharing attributes to be present. Intra alliance relationships and inter organisational relationships are vital for success of the current project and for securing future alliance project partner roles and future project success.

Alliancing has grown fast. The value of alliances in the public sector grew from less than A$1,000mil in 1996 to more than $10,000mil in 2008 (Department of Treasury and Finance Victoria, 2010b). Within the Australian government sector, project alliancing is now a mainstream method of delivery of infrastructure projects (Department of Treasury and Finance Victoria, 2010b). This has resulted in a changed business environment that demands different relationships between the players in the project process.

What might be expected would flow naturally from this increased involvement in alliancing and the established importance of people for organisational and project success, knowledge sharing and the development of lasting, trusting relationships is an expectation that human resource (HR) departments would develop supporting policies and programs. An organisation’s culture is described as a pattern of beliefs and expectations that shape the behaviour of individuals and teams within it. Values and norms are shared by organisational members and these in turn guide members’ perceptions, thoughts and actions (Dessler et al., 2007). The culture of an organisation is impacted by a range of factors including founding leaders or strong leaders who follow, and the way that the organisation treats its employees, customers and suppliers. A supportive culture which develops trust is required to encourage knowledge sharing (Newell et al., 2002). Organisations involved in alliances to deliver infrastructure and services, usually to government, will need to change the way they operate to support this change. This will require changes to the culture to support new work design. With alliances, a new structure is effectively formed. Employing organisations position staff within the alliance entity to fulfil their partner role. This new way of working
within a different organisational structure would require changes in approaches to HR to support this new mode of operation.

4.6.2 Strategic Human Resource Management

It has been maintained for some time now that HR has a more strategic role to play in organisations. Ulrich (1997; 1998) detailed the strategic partner role that HR should play to support achievement of organisational objectives. Brockbank (1999) went further to state that HR should go beyond supporting strategy developed by others to creating strategic alternatives. Brockbank (1999) viewed making strategy happen, or being a strategic partner as a 'strategic reactive' stance; he termed the role of HR in proposing strategic alternatives the 'strategic proactive' approach. With project alliance agreements now responsible for a large percentage of the revenue of major infrastructure and construction companies in Australia, it could be expected that strategic HR departments within these organisations would have helped to make this move happen. However actively providing input in to strategic planning, or even reacting to the plans of others (strategic reactive), is not occurring at the rate some would wish (Lawler III and Mohrman, 2003). The HR strategic partner role outlined by Ulrich (1997; 1998) would ideally ensure that new and different ways of managing the employment relationship would support this change in the way projects are delivered. The four roles Ulrich (1997; 1998) identified of strategic partner, administrative expert, employee champion and change agent would all be called on here. The partner role would involve supporting the strategic move to alliancing for organisational success; the administrative expert would develop systems to supporting tracking of employees working outside the organisation, co-located within the alliance entity; as employee champion HR would ensure that employees' interests were protected during their time with the alliance, such as performance development for future career advancement, and the HR change agent would design, plan and implement programs to support the changed method of project delivery.

With organisations participating in this research indicating 75% or more of their revenue now being generated through alliance projects, another important issue arises. Inevitably this means that about 75% of staff will be co-located with other alliance partners when working across the range of alliance projects operating at any point in time. Staff may move from an alliance project to head office and perhaps back in to another alliance project or a traditional project role when one project is completed and another commenced. After a period of time working in another environment, being viewed as an employee of the alliance entity whilst still paid by their employing organisation, employees may suffer similar readjustment issues to those who have been on overseas placements.

4.6.3 HR to support alliancing

For the level of knowledge sharing required for project alliancing success a range of people management practices may need to be implemented (Cabrera and Cabrera, 2005). A range of HR-related issues, therefore, require attention for successful project alliancing. Work design, including co-location of alliance staff such that knowledge flows occur across social networks and through the dependencies which develop between employees working together closely to achieve the desired outcome will support knowledge sharing which in turn enable innovation (Egbu, 2004) which is a commonly agreed principle within alliance agreements (Walker and Hampson, 2003c), often referred to as breakthrough or game breaking innovation (Carter and Bruce, 2005) to occur.

The question remains, especially given Lawler and Mohrman’s (2003) concerns as to whether HR is fully taking on their strategic role: can we realistically expect this of HR departments in all organisations entering alliance project agreements? Kulik and Bainbridge
(2006) researched the extent to which tasks formerly performed by HR staff were being devolved to line management in Australian organisations. They found that there was ‘a distinct division of labour between HR and the line’ (Kulik and Bainbridge, 2006: p251). HR retained responsibility for activities involving contact with outside agencies, therefore occupational health and safety and union relations remained within HR’s realm. HR also continued to carry out human resource planning, but day-to-day people managing activities have now become primarily the responsibility of line. Overall there had been an increase in the devolution of activities to line over the five years leading up to Kulik and Bainbridge’s report. HR also reported a higher expectation than did line that this trend would continue. To some extent this seemed to indicate that line managers were finding the increasing range of people management activities for which they were being held responsible was of concern. The research did not explore the extent to which line managers were prepared for their increased people management role and the reasoning behind the transfer of these activities had not been well communicated. Kulik and Bainbridge (2006) recommended more open lines of communication between HR and line to support the current and predicted future levels of devolution of people management activities.

Extending the research on devolution, Kulik and Perry (2008: p541) noted that increased devolution of HR activities to line brought with it an increased involvement by HR ‘in the operation of business units and in the organization’s strategic planning’. Issues remained in relation to the need for line managers to now include HR decision making in their role thus expanding their job responsibilities; something not all managers are keen to do. Reluctance to change tended to be stronger within large organisations with mechanistic structures (Kulik and Perry, 2008).

Alliancing is new and has grown fast with alliance project team members, including managers and leaders, located within the alliance entity, not at the employing organisation’s site. Issues surrounding the devolution or breakdown of HR activities between HR and the unit manager to whom alliance team members report may at this stage lack clarity. Unit managers will no doubt conduct twice yearly performance reviews maintaining a level of involvement overall in performance management. Unit manager involvement in performance management, employee disciplinary action, coaching or promotion decisions is in line with Kulik and Bainbridge’s (2006) findings. Newsletters and invitations to social events may be provided by the employing organisation however information regarding employee development programs and other activities may not always be received by alliance staff. These people will have an alliance, rather than employing organisation, email account.

**4.6.4 Attraction and retention of talent**

The ability to attract, develop, and retain talent critical to the success of an organisation is a challenge facing all public and private sector organisations (Frank and Taylor, 2004; Holland et al., 2007; Benest, 2008). A range of factors affect employee attraction and retention: work or job design including task variety, challenging projects and autonomy; rewards, including recognition and advancement; work/life balance and management style of immediate supervisor (Frank and Taylor, 2004; Holland et al., 2007; Benest, 2008). Lingard and Francis (2005: p1045) stated that ‘to attract and retain a talented workforce, construction organizations will increasingly have to cater for the diverse needs of employees with regard to work-life balance’. Collaborative work environments provide a greater opportunity to implement initiatives to address work life balance (Walker, 2002) and this has been more recently confirmed by a study conducted on an alliance project by Lingard, Brown, Bradley, Bailey and Townsend (2007). Twenge, Zhang and Im (2004) found differences in locus of control between generations. Wong, Gardiner, Lang and Coulon (2008: p881) saw this change as perhaps leading to Generations X and Y employees placing a higher value on work-life balance ‘as they seek to retain ‘control’ over’ aspects of their lives.
Because almost 40% of job moves involving key talent fail and 70% of those currently identified as ‘high performers’ will be found to ‘lack critical attributes essential to their success in future roles’ (Martin and Schmidt, 2010: p57) a range of initiatives needs to be taken to identify, motivate and retain high potential employees as misidentifying talent can be costly. Talent needs to be identified early and a range of integrated activities initiated to support development of those critical attributes required for future success. This includes linking the goals of high performing employees to corporate goals and paying increased attention to their satisfaction to ensure they remain engaged. As already mentioned, commitment toward the organisation and its vision, or affective commitment (Meyer and Allen, 1991) requires that organisations learn if these high potential employees are satisfied with more than just their current job. Talented employees should be placed in positions that will enable them to develop new capabilities, whilst providing the opportunity to identify if they have the potential to develop for future, more senior roles. Ensuring that high potential employees' professional development is coordinated at the corporate level is important (Martin and Schmidt, 2010). High performing employees with future potential are a long-term corporate asset. Limiting their development to that relevant for their current business unit may provide narrow development opportunities related to the skills required for today rather than tomorrow. Additionally, Martin and Schmidt (2010) warn, line managers may ‘horde’ talent as they are a desirable asset, but this may not always be in the best interests of the organisation in the long term. This highlights the strategic role that HR needs to perform to support alliance project success.

Key talent will not always have the same unit manager over a long period of time. Indeed, if they move from one project to another it is likely there will be a change in reporting relationships. There is also the possibility that, unwittingly, the unit manager may ‘confine’ their key talent out of a desire to retain their superior performance. The impact of this is to deprive the organisation of all they might have been able to benefit from, in any area of the organisation in which the talented employee may have been able to contribute, whilst at the same time restricting the career development of talented staff. High quality staff will know their contribution and their ‘market value’. If left out of selection for interesting and challenging roles because they are not located within their employing organisation’s central operations, or if their unit manager only sees the opportunities within their unit, retention will be adversely affected. Such staff will find the roles they desire and pursue the career they seek outside.

In an organisation involved in a range of alliance projects, there will be occasions when members of staff have spent very little time within their employing organisation’s head office or on traditional project roles. Indeed, in some instances staff may have been recruited for the purpose of joining an alliance project and may have only worked for the alliance entity, interacting daily with other alliance partners, not their employing organisation colleagues. Those who had worked for some time on traditional projects, based within their employing organisation, will need to adjust to their new environment, in a similar though not as dramatic way as do those on international placements. On completion of a project, return to an unfamiliar environment may relate closely to the experience of an expatriate being repatriated to their original home office. Expatriate returns can be marked by readjustment issues, or even inability to re-settle in the original employing location. Readjustment is not always successful. Research conducted by Baruch and Altman (2002) found that approximately 50 per cent of people left their organisation within a few years of their return from an overseas placement. No longer feeling part of the organisation can be a contributing factor to this high rate of turnover. This can threaten the success of employee, knowledge and experience retention efforts and lead to loss of talent jeopardising future success. For expatriates on overseas placements, Crocitto, Sullivan and Carraher (2006) suggest the use of a mentor or multiple mentors to assist with adjustment to overseas placements and again on repatriation, to aid readjustment on return to the home location. Similarly, organisations
involved in alliancing may need to consider innovative approaches to assisting staff to retain a high level of affective commitment to their employing organisation and to adjust to alliance placements and return to head office or traditional project management roles.

4.6.5 Sub-section summary

Alliancing has brought about a change in the way in which project-based organisations operate. Galbraith (2002) noted that when a change in strategy occurs an organisation must adjust a range of elements: structure, processes, rewards and people. Organisations now completing a large part of their business in alliances will have to change their structure (employees will now be located within the alliance entity, working with partner organisation employees), processes (initial contract negotiation and conduct of projects has changed to the alliance model), rewards may now include challenging and different projects to work on but particularly a different way of working where interaction occurs with a range of project personnel over the life of the project and the high level of trust, knowledge sharing and communication develops strong relationships, and, therefore, people who can work effectively with a diverse range of people, even those who are in other contexts their competitors. At the same time, owner partners within alliances will need to ensure that their employees have the relevant knowledge, skills, abilities and other characteristics to effectively negotiate with partner organisations.

4.7 Leadership implications for AM selection and retention

The literature on alliancing stresses previously discussed in Section 4.2 flagged several defining features that have implications on management style. These leadership implications are extended below.

4.7.1 Scope and scale of interaction with other teams

The AM interaction with Owners and NOPs is one of facilitating trust and communication between teams and individual team members to be collegial and share insights, information, knowledge, concerns and proposed solutions to challenges and problems that emerge routinely in alliances. Projects are created to realise a benefit, a need expressed by a project owner (Bradley, 2010). Much of the front-end phase of alliance projects involves interpreting a project owner’s needed benefit, the business case, and re- framing that benefits-need formulation into a project brief. This brief in turn is refined and challenged as part of a value adding exercise to develop a more robust plan and TOC assessment to deliver the benefit in both a VfM and BV sense. The focus is on a best-for-project objective rather than a commercial opportunity for NOPs. The alliance agreement contract takes care of many potential concerns about return on intellectual property (IP), profit margins for participants, and costs of being involved in the way that the cost of participating (including painsharing and gainsharing) so that the teams can focus on the project brief and TOC (Hutchinson and Gallagher, 2003). This is how Hutchinson and Gallagher explain what game breaking advances are meant to be encouraged (2003: p12) such as delivering at 20% under budget, delivering a project significantly ahead of time, gaining widespread community and project end user appreciation of the quality of results. The leadership style needs to: be highly collaborative, encourage widespread knowledge sharing; encourage and support trust between teams and team members; embrace uncertainty in order that an optimal set of options are fully considered; encourage risk sharing so that those best able to manage risk do so; create a no-blame culture so that emerging difficulties are promptly and effectively identified and addressed. This leadership style needs also to be power free from a command and control perspective. The subject of power as applied by leaders has been explored widely for many centuries (for example by Machiavelli and Sun-Tzu) and researched for decades. Hersey and Blanchard (1982) for example developed a useful
leadership style typology based upon an instructing command and control low to high dimension, a supportive dimension and the followers state of job and attitude maturity. Greene and Elfrers (1999: p178) identify seven forms of power listed in Table 5. AMs must juggle the use of all these to varying degrees to most effectively apply power for the kind of true collaboration required of alliance teams. Interestingly, the AM needs to manage power as illustrated in Table 5.

Table 5 - AM Leadership in Application of Power

<table>
<thead>
<tr>
<th>Type of Power</th>
<th>AM leadership influence on its application</th>
</tr>
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<tbody>
<tr>
<td>1. Coercive based on fear</td>
<td>Avoid, redirect to clarify concerns/fears raised and expose to all relevant team members to tackle root causes of the concern. Knowing how and when to require action in moving from planning to implementation of ideas.</td>
</tr>
<tr>
<td>2. Connection based on network access to desirable resources and people</td>
<td>Facilitate on a best-for-project basis.</td>
</tr>
<tr>
<td>3. Reward based on distribution of desirable things</td>
<td>Painshare and gainshare agreement.</td>
</tr>
<tr>
<td>4. Legitimate based on organisational position</td>
<td>Gaining respect from others through being an authentic leader. Often the AM has little individual power or ability to demand specific action though the alliance contract recognises the role.</td>
</tr>
<tr>
<td>5. Referent based on personality traits</td>
<td>Authenticity and persuasion qualities that inspire respect and willingness of followers to determine and follow plans.</td>
</tr>
<tr>
<td>6. Information based upon access to information and knowledge</td>
<td>Facilitate wide access to information, knowledge and legitimacy for all to challenge underlying assumptions.</td>
</tr>
<tr>
<td>7. Expert based upon expertise personal skills</td>
<td>Strong understanding of the project objectives and strategic aim, expertise in being able to know what questions to ask.</td>
</tr>
</tbody>
</table>

The AM role can be perceived as that of a specialised form of project manager. In one sense an AM is personally responsible for delivering the project, acting as chair of the AMT. The AM is the single channel of liaison and accountability between owner and project design and delivery. This appears to be a mezzanine organisational position, similar in many ways to that of project sponsor in program management. It sits above a traditional PM position but is still answerable to the project sponsor. Crawford, Cooke-Davies, Hobbs, Labuschagne, Remington and Chen (2008: p ix) argue that the role of sponsor is ambiguously defined in the prevailing literature but that it is useful to view a sponsor as a bridge between the permanent and temporary organisation and that the sponsorship role is often filled by many actors and dimensions of governance and control. Moreover they describe the sponsorship governance role under six dimensions as listed in Table 6.

Table 6 – Sponsor and AM Leadership Role and Power Base Comparison

<table>
<thead>
<tr>
<th>Sponsor Governance Role</th>
<th>AM Role</th>
<th>Power Base Predominantly Used for Role</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Governing the project</td>
<td>Leading the project teams</td>
<td>Legitimate, connection, referent</td>
</tr>
<tr>
<td>2. Accountability for business case and benefits realisation</td>
<td>Facilitating teams to be aligned towards project delivery performance.</td>
<td>Information, expert, legitimate – as last resort through group reward and coercion through the gainsharing painsharing agreement.</td>
</tr>
</tbody>
</table>
Table 6 illustrates the required enhanced skill set required of an AM compared to a PM who generally is less subject to direct interaction with consensus decision making with such a wide array of alliance partners than is an AM. In most, if not all projects, the owner’s sponsor reports to the owner’s board but in many alliances, the sponsor may be a member of the ALT and so in this context is governed by the AM. However, the AM is accountable to and reports to the project sponsor who is in turn accountable to the project owner. AMs therefore need exceptional negotiation and perspective taking skills in this circumstance because this widens the AM responsibility beyond that of a traditional PM.

The Wood and Duffield (2009: p xi) report notes that for many government alliances “The average increase from business case cost estimate to Actual Outturn Cost (AOC) was of the order of 45-55%” but their report did not mention how or why this arose. We can argue that in many cases the AOC may have delivered greater value and benefit so that VfM may have in fact increased. In a government procured alliance, the owner is the department that has identified a benefit-need, has developed a business case that has been approved by Treasury and Finance and authorised by Government to proceed. In practice, the balanced judgement regarding the ‘VfM proposition’ in the business case can change over time. A distinct advantage of a project alliance is that it can proceed before being fully documented sufficient to tender on a more traditional DBB, D&C or even PPP (see Section 4.2) project procurement form. Indeed, project alliances are usually predicated on significant uncertainty surrounding the specific context, circumstances and expectations of the outcome. Design definition may need to proceed in tandem with new facilitating legislation and regulation changes, the benefits need specification may be impacted by changing information on demographics or by technology advances and a whole host of unforeseen issues. In these cases an alliance is best suited to adapt and change project plans and scope accordingly without the heavy transaction costs discussed in Section 4.3 to enact scope changes and authorisation for project change and the negotiations involved in paying for these. In this way benefits and cost may be kept in synch and this seems not to be acknowledged in the Wood and Duffield (2009) report.

Table 6 also suggests that for all six roles the AM needs to consider, engage and manage stakeholder expectations to a far greater extent than is ‘normal’ for a project manager. The PM body of knowledge (PMBOK) is the PM ‘bible’ but lacks emphasis on stakeholder engagement (PMI, 2008) but this has been challenged more recently (Bourne and Walker, 2004; Aaltonen et al., 2008) and even when we take into account current best practice in stakeholder engagement (Bourne, 2009) we can see that the AM needs to engage with a far wider group of stakeholders compared to traditional project managers and that the relationship with alliance partners is not one of a set of hierarchical arrangements but rather one of collaborative and collegial actions. This does significantly change the fundamental leadership profile required of AMs. The way that power is wielded and used requires little
While this does not negate the need for technical skills and knowledge (because AMs need to know enough to know what questions to ask and what assumptions to challenge) it does highlight the need for the 'soft skills' of persuasion, empathy and open mindedness to see possibilities and encourage 'out of the box' thinking and innovation. This in turn requires authentic leadership skills.

4.7.2 Authentic leadership needs

The above sub-section suggests that the AM is required to tread a very fine line in balancing the sources of authority and when to apply these blatantly or subtly through others.

Avolio (1996: p5) outlines a progression of leadership approaches. These comprise: Laissez Faire in which by abdicating responsibility a leader takes an 'anything goes' stance; managing by exception through either only passively being concerned with fixing mistakes after they happen or more actively looking at what went wrong and ignoring what went right; constructive Transactional by developing well defined roles and expectations to achieve desired outcomes; and Transformational in which there is evidence of what he calls the 4 I's (Avolio et al., 1991). These are: individual consideration (stimulating motivation mainly through performance and rewards that meet the individual’s value proposition); intellectual stimulation (questioning the status quo and seeking innovation and continuous improvement); inspirational motivation (articulating a desired future and how to achieve it); and idealised influence (gaining trust, respect and confidence with high standards of conduct to be a role model). Authentic leadership is an extension of transformational leadership. In general it requires qualities of authentic leadership (Avolio et al., 2004; Avolio and Gardner, 2005; Lloyd-Walker and Walker, 2010). This is illustrated in Figure 4.

Figure 4 - Authentic Leadership Concept Source: (Lloyd-Walker and Walker, 2010)
The key driver of effective action by collaborative teamwork is achieved through aligned goals being enthusiastically pursued by teams and individuals facilitated by the sets of authentic behaviours modelled by the AM. This requires trust, commitment and shared values. Trust was discussed and illustrated in Section 4.4 (see Figure 2) and particularly affective commitment and shared values are cemented in place with a robustly accepted shared vision.

This engine drives the capacity for supportive behaviour in teams. Section 4.4 Table 3 summarised relevant AM behaviours that demonstrate authentic leadership and this is made possible by a mindset that demonstrates an open mind, cultural sensitivity (see Section 4.5 Table 4 for summary details), a positive way of perceiving the future and coping with challenges that is demonstrated by resilience (Gallopín, 2006; Small, 2009) and improvisation so that unforeseen and unexpected situations are readily coped with (Hällgren and Maaninen-Olsson, 2005; Hällgren and Wilson, 2008; Hällgren and Maaninen-Olsson, 2009).

4.7.3 Strategic realignment

At the end of section 4.6 (4.6.5) we cited Galbraith’s (2002) where he argues, as in his earlier work (1995: p342), that in HRM terms strategy is inextricably linked to:

• The tasks that people are expected to, required to or volunteer to perform;
• The identification and implementation of people’s skills and attribute development;
• The reward systems in place that fund initiatives and recognise achievement with a range of feedback mechanisms;
• The structure of organisations and how various people fit into the hierarchy;
• The processes and administrative arrangements in place to manage people’s employment conditions and career plans.

The implications of this for alliancing are that when either the POR or NOP organisations engage in alliancing strategy (and this may ‘creep’ into being the dominant business strategy for the organisation) with its distinct culture and requirements, as compared to for example D&C or ‘hard money’ contracting, then the entire organisation concerned needs to adjust accordingly. This may take the form of alliancing staff being seconded to the alliance and cast somewhat adrift from the base organisation in terms of contact, expectations of re-entry into the base organisation and absorption of the organisational or team unit culture. If no adjustment to the base organisation’s strategy is made then people will simply drift in and out of that organisation with little thought to how it may affect the organisational structure, HRM policies and procedures, job descriptions and expectations and rewards for having contributed to the alliance or to re-integrate valuable knowledge and experience into the base organisation. Additionally, if the base organisation moves closer towards greater involvement and business development as a result of the alliancing exposure then its strategy directed towards other procurement paths needs to be reconciled. If it is not accommodated in some way then the base organisation may face disruption to its corporate strategy with unhealthy tensions sending mixed or confusing messages to all employees. There is nothing wrong with divisionalisation of types or work with an alliance division, a D&C division, a ‘hard money’ contracting division for example as long as this is part of the thought out strategy of the base organisation.

People who have been taught to be open, trusting, collaborative with a best-for-project mentality with others in a project supply chain from client to user, need to be re-aligned to the matching commercial and behavioural realities and expectations of non-alliance project work.
4.8 Risk and uncertainty

Infrastructure and engineering projects were suggested by Turner and Cochrane (1993) to typically have well understood goals and methods of delivery. However their attempts at project classification on that basis appear to be rather coarse-grained when contrasted with the added dimension of project type offered by Shenhar and Dvir (2004; 2007) who consider novelty, complexity, technology and pace as important project context considerations. Howell Windahl and Seidel (2010) have classified PM frameworks and approaches based upon two dimensions of uncertainty (the probability of unexpected events) and consequences (the impact or cost of the unexpected). Projects have also been more recently perceived in terms of complex bundles of projects and associated services where innovation and learning features strongly (Hobday et al., 2000). These examples indicate relevance of issues of project complexity, degree of being inherently complicated or their being delivered in a turbulent or chaotic environment.

This leads us to view projects in terms of what is known and unknown i.e. risk and uncertainty. The Johari window, originally developed by Luft and Ingham (1955), is a tool to map awareness. Its dimensions are ‘known to self’ and ‘known to others’. Public knowledge is that which is known to self and others. Private knowledge is known to self but unknown by others. Blind is known to others but not to self and unknown is knowledge that neither ‘self’ nor ‘others’ are aware of. This idea can be transformed within a PM context into self (project team cumulative knowledge) with known “knows” and this model can be used to also classify uncertainty and can further be combined with the Cynefyn framework described by Snowden and Boone (2007). Figure 5 below presents a transformation of these ideas with a project procurement context.

Figure 5 – A Johari Oriented Cynefyn Typology of Awareness

<table>
<thead>
<tr>
<th>Quadrant 1</th>
<th>Quadrant 2</th>
<th>Quadrant 3</th>
<th>Quadrant 4</th>
</tr>
</thead>
<tbody>
<tr>
<td>KNOWN KNOWNS</td>
<td>KNOWN UNKNOWNS</td>
<td>UNKNOWN KNOWNS</td>
<td>UNKNOWN UNKNOWNS</td>
</tr>
<tr>
<td>Sense categorise, respond</td>
<td>Sense analyse, respond</td>
<td>probe, sense respond</td>
<td>Act, sense respond</td>
</tr>
</tbody>
</table>

- Quadrant 1: Known Knowns
  - Simple – response?
  - Sense categorise, respond
  - Client and project teams are reasonably clear on scope, scale and performance expectations.

- Quadrant 2: Known Unknowns
  - Complicated – response?
  - Sense analyse, respond
  - Client needs expert help to formulate clear scope, scale and adequate performance expectations.

- Quadrant 3: Unknown Knowns
  - Complex - response?
  - probe, sense respond
  - Client and project team co-create knowledge to facilitate developing a clear scope, scale and performance expectations.

- Quadrant 4: Unknown Unknowns
  - Chaotic - response?
  - Act, sense respond
  - Client and project team need close intimate interaction to share knowledge with a focus on the project’s needs in order to develop clear enough plans to incrementally respond and to fine tune performance expectations in that light.
The Cynefyn framework is helpful for leaders attempting to understand the nature of exposure to risk and uncertainty that their operating environment poses. Snowden and Boone (2007) see situations as being mainly ordered or unordered with a small zone of disorder—essentially an island of chaos. They recommend strategies to deal with apparent or perceived disorder by shifting perceptions through use of knowledge and perceptions that can be shared and re-framed so that the disorder slips back into either an ordered or unordered state. If the project objectives and methods are known and understood it is relatively simple to take effective action, using well established protocols and, as indicated in Quadrant 1, a traditional procurement approach may well suffice. Quadrant 2 describes complicated projects which may be effectively dealt with using traditional project procurement approaches as long as the client/project owner seeks and uses expert help to formulate scope, scale and performance expectations. Relationship based procurement strategies begin to appear more attractive when the PO is blind to potential problems in complex projects. In this situation a lot of mutual adjustment is required between the PO and project teams in facilitating clear scope, scale and performance expectations. This situation is suggested by Quadrant 3. Quadrant 4 illustrates a chaotic state where the environment is highly turbulent or circumstances and required knowledge are changing more quickly than can be formulated into medium term plans such that the response can only be reactive and therefore all team members, including the POR, must be focussed on action that moves the project completion forward.

Figure 5 introduces general issues of complexity and complicatedness in terms of the need for the PO and NOP team to share knowledge, insights on the implications of prescribed (planned) actions, and performance expectations. It hints at the importance of mutual understanding of what is required, what needs to be done and how to resource and mobilise resources to achieve the intended project outcome, as well as the need to define performance expectations. From the PO’s perspective, performance may mean benefit realisation through the project outcome and this could encompass a number of stakeholders, such as end-users, as well as ‘the environment’. From a NOP’s perspective, performance may include financial rewards as well as intangible returns such as kudos, learning, relationship building and a range of other benefits. Figure 5 provides a framework for understanding the need and project circumstance that could govern the degree of relational consideration that the project procurement form must encourage to be effective in facilitating clear enough scope, scale and performance expectations to enable the PO and the NOP project team to be able to deliver a successful project. Explicit articulation of performance in terms of delivering expected benefits is critical to achieve project success.

4.9 Governance theory and practice in a PA context

Much is written and spoken about governance and it has a certain authoritative ring about the term but what does it actually mean in a PA context? Müller (2009, p2) provides a simple and understandable definition of governance, he states that it is “a framework for ethical decision making and managerial action that is based on transparency, accountability and defined roles. It also provides a clear distinction between ownership and control of tasks.” He later brings in concepts of governance being linked to the values of the organisation. He further develops a typology of governance frameworks based on an outcome control focus or behaviour control focus on one dimension and a shareholder orientation or stakeholder orientation on another dimension to create a 4x4 matrix. PAs are clearly more stakeholder than shareholder focused and are behaviourally more than control outcome focussed. PAs are designed to be team inclusive and to align best-for-project behaviours, ethical dealings and generally have a higher focus on triple bottom line (3BL) outcomes.

The relevance of this way of understanding governance in a PA context is that the outcome value expectation is broader than business as usual BAU projects that often have a stronger
focus on shareholder (owner/client) than broader project stakeholders. PAs also require high level trust and commitment from senior level NOP and POR management levels and this is manifested in the governance structures of the project charter, the Alliance Leadership team and the primacy of the business plan as the defining reference to outcome expectations. Throughout the PA there is a constant reference to innovation, collaboration and best-for-project and so these form governance artefacts that drive a PA quite differently to other project management forms.

When we seek to understand the main difference between a PA and a BAU project, and therefore the key differentiating features of an AM over a project manager, we can see it is the governance structure of an alliance that provides the clues for our understanding. A PA demands of its AMs that they understand the values of the project’s charter and that the behaviours of respect for other team members, collaboration, commitment and trust are as real in a PA as is cost/time/quality control in many BAU projects. Further, value for money underpins the PA and so cost/time and quality in its stakeholder sense is also a pivotal value that must be lived in a PA.

4.10 Summary – Implications: Developing a theory of alliancing

To summarise the underpinning theory and literature that has informed our report, we argue that PAs represent a heightened level of project management where the PO or POR engages fully as a project leadership team member and so the AM takes on a more demanding role than that of being concerned with only project artefact delivery the AM needs to also focus on behavioural outcome delivery. In relationship based procurement and PA in particular that is based on: collaboration through joint problem framing and solving; a model of success is wider than time/cost/fitness for purpose; and the driver for alliances being based on best-for-project needs and means. The tangible outcome of the project is the delivery of the expected benefit: a functioning hospital, transportation infrastructure, water supply or sewerage system. The intangible behavioural outcome of the PA is demonstrated mutual respect, collaborative process and action, and trust and commitment. The implications of this are that:

1. If we accept that collaboration is the first order determinant of value then trust, commitment, authentic ethical behaviour and ability to achieve complementarities must be valued, appreciated and nurtured;
2. This requires authentic leadership behaviours that conform to cultural norms of what all parties perceive to be ethical from their perspective;
3. This requires energy being transferred to governance based solely on the ‘iron triangle’ (time, cost fit-for purpose) to a governance framework that is based upon cultural-behavioural alignment of shared norms. This means that those leading alliances must possess a different mix of a leadership skill set than those engaged in BAU projects;
4. Organisations need to consider the strategic impact upon their organisations from their key staff being engaged in alliances in terms of strategy re-alignment as well as opportunities and threats that this exposure presents; and
5. The intangible behavioural outcomes should lead to learning about how to work in this way on future projects so that behavioural learning becomes an important alliance outcome.
The purpose of this conclusions section is to draw the paper to a close in terms of what the research told us and how it led to answering Research Question 4 in particular. We follow this section with our response to the ‘so what?’ question that any empirical research should prompt. It will address the ‘where do we go from here?’ speculation that logically follows the conclusion of any study.

Samples of quotes have been provided in the appendices to this report that include a far greater number of quotes to illuminate the discussion than was appropriate for this summary. We feel that the appendices to this report provide a reasonable basis to substantiate assertions and claims made within this summary report (the Appendices can be found in Volume II). We are acutely conscious of trying to balance not overwhelm readers with detail while demonstrating the rigour behind this report. The literature review helps readers who wish to probe for meaning to make better sense of the data and findings we report upon.

We addressed four questions in this research that logically lead to the research outcomes illustrated in Table 11. These provide a focus for this research:

Q1 What are the defining differences between alliancing and other forms of project procurement?
Q2 How do these defining differences impact the required skills, knowledge and attributes of AMs as compared to general excellence in PM?
Q3 What are the key features of an AM role that can be used to construct a tool to measure capability maturity?
Q4 How can AMs be best attracted, recruited, retained and developed to work in alliance projects?

Responses to these were presented in Section 3. The clarity encapsulated in the 10 points in Table 11 and Figure 6 provide the major ‘take-away’ that many readers will find of immediate use.

Many readers may be anxious to see tangible evidence gained through the study. We direct them to Appendix 1, through 5. The practical outcome of this work is presented in Appendix 6 in the form of the CMM.

Overwhelming conclusions that we gained through the process of interviewing 12 experts in PA, plus the two validation workshops, listening to their audio recorded interviews and referring to transcript countless times was that:

1. PAs require a step change in the level of project management skills, attributes and experiences. The need for trust, commitment and flexibility runs against many business training paradigms of best-for-employer to best-for-project. However when sustainable competitive advantage is considered above short-termism, then best-for-project provides a leading business model that is evidently taking root.
2. Our major thrust of writing here is about AMs although much of the transcripts refer to how AMs interact with, collaborate with and grow with, other PA team members. There
needs to be a strong focus of growing AMs from those that participate as itinerant PA workers.
3. We feel that HRM practices have fallen behind the strategic needs of PAs. This needs to be further researched and addressed.
4. There could be a role for the AAA in an alliance, together with others who can deliver the necessary education, training and development needs of PAs—we hope we have started to map that terrain.

We hope that this document is accessible to AAA members in that it is not too dense or difficult to comprehend. This is a challenging field to study, research and report upon in a way that is both pragmatic and rigorous. We rely on our appendices 1-6 in Volume II as support for those interested in delving deeper. The full report which provides far more depth of detail so that readers who are particularly curious about the findings can discover more. We also are available to respond to questions and insights.
We now come to address the ‘so what’ and ‘where to from here’ questions.

This report, substantiated by the appendices, provide some clarity in what is needed of AMs as well as for POs and PORs about how they can now frame the future delivery of hard and soft skill and experience needs of AMs. The challenge is for PORs and NOPs to use Table 11 and Figure 6, in particular, to grow the pool of potential AMs currently in the Foundational Aspiring category of maturity through improved identification of potential AMs and inspiring them to shift their career development towards being a Nascent Recent AM. The second challenge is for PORs and NOPs to facilitate the movement of maturity of all AMs towards being Mature Experienced AMs. This challenge needs to be undertaken with due concern for pace and career aspirations of AMs to avoid burnout or being lost to the potential AM pool. We identified through the data that most Alliances do not use, or see the value of using, the HRM departments in their respective businesses. This indicates one of two alternatives. There may be a gap in the PA current process in which HRM input could be harnessed to increase the ‘talent’ pool as well as facilitate its development. The alternative is that HRM departments in these organisations fail the PA system in some way that is currently poorly understood.

The pace of alliance-type work is unlikely to significantly drop over the foreseeable future. We are seeing a retreat from a single TOC to a competitive TOC basis for PAs but the fundamental premise for them remains. Respondents report that in the case of several large NOPs that between 75% and ‘a majority’ of projects or programs of work are procured via alliances. Other forms of relationship-based procurement that involve early contractor involvement (ECI) are also in vogue. Other relationship-based procurement approaches such as PPP/PFI also require the kinds of ‘soft skills’ indicated by authentic leadership. The frameworks developed (in Table 11, Figure 1 and Figure 6) may be transferable in situations where collegiality and trust is required. The future focus for skills, attributes and experience development should be pragmatic and lead to supporting organisations to gain superior sustainable competitive advantage through developing its ‘talent’.

The result of widespread disaster recovery induced projects such as post-flooding, -bushfire or -earthquake recovery projects and programs of work coming on stream demand immediate responses and massive infrastructure investment that cannot wait for traditional project concept, design development, tender and delivery timeframes. One viable option, provided that the urgency does not disadvantage funding agencies to make hasty and poor decisions about projects, is that many of these can be delivered through alliances. Many of the state governments and agencies requiring these recovery projects have had recent and positive experience with alliances and may be considered sophisticated POs or have sophisticated PORs to represent them.

The study clearly shows that PAs can only be successful if the PO or POR is sophisticated enough to be able to engage with NOPs in a power and information symmetry rather than asymmetry. To successfully work in an alliance all parties need to respect each other’s potential contribution and to effectively work together. This leads to a further implication. The study and brief for the research did not specifically focus on the PO or POR. However, it becomes clear that for PAs to function effectively POs or PORs must possess matching ‘soft
skills’ and attributes that engender trust and commitment as should apply to NOPs and AMs in particular.

POs and PORs need to be more actively engaged in developing their own internal skills as Alliance Leadership Team members. They could benefit from the frameworks and development tools and processes developed through this study.

Development of tools to identify and improve AM skills and experience is essential, given the anticipated demand for and possible gap in availability for AMs and the need to raise the bar for existing AMs to provide a continuous improvement stream of talent. This exacerbates the need for CMM tools such as that presented in Appendix 6 to help AMs develop their career and skills base. It also raises the question on how to conduct a recruitment campaign to attract AM talent to this industry sector.

All research studies of this type end with a ‘future research’ section. Our view of potential future research that flows from this study is that:
1. A study of Alliance Leadership skills, attributes and experience could be undertaken based upon models and frameworks developed in this study;
2. We see value in undertaking case study research on project alliances where time and cost scope changes have occurred to evaluate how these happen and to what extent they have resulted in commensurate escalation of benefit delivery;
3. Several longitudinal studies could be made during a project alliance in which independent researchers could gather data about how the project relationships and delivery unfolds from the perspective of the AMT as well as ALT so that interactions and interplays between these groups as well as within the groups are studied to help us better understand what goes right or wrong in PAs; and
4. There would be value in a study being undertaken that investigates HRM senior personnel and AMs to better understand what the role of HRM could and perhaps should be in PAs and what barriers are in place that inhibit HRM productive participation in improving the current situation.
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